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DEFECTIVE HEARING: ITS MODERN TRE[illegible] ...d Hays

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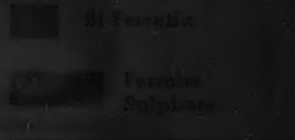
NEW FACTS ABOUT EFFECTIVE IRON THERAPY



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Editorials

The Enchanting World of the Medical Student

ARE the students of today fascinated by the faculties of the medical schools (as well as by the whole captivating world—to them—of medicine) to the same degree as was the case forty years ago? We hope that they are, for this glamorous contact is the student's greatest stimulus. The practitioner-teacher's greatest responsibility is to do nothing that would shatter or impair this student psychology. As a matter of fact the teacher-practitioner would have to be incredibly inept to do so, so strong is the student's loyalty to his own ideology and the tendency to see only the many bright lights in any teacher's personality. It doesn't matter if it is not true that the teacher is a kind of demigod. What matters is the student's assumption or belief that he is. The medical student is the last Platonist, believing that ideas and ideals are the only realities anyway.

The Doctor of Devil's Island

RENÉ BELBENOIT, Prisoner No. 46635, author of *Dry Guillotine* (E. P. Dutton and Company, Inc., 1938), spent fifteen years among the living dead of Devil's Island, French Guiana, before his successful escape to the United States. What he has to say about the medical officer in charge of the "Guiana Hell", Doctor Rousseau, is a pleasure to read:

> The fact that the hospital for the Islands has no running water, that all its windows are broken out and the floors about to fall in, and that he had to leave to the next day the patients he could not get around to who were in agony from dysentery, typhoid, malaria and tuberculosis, only brought out his spirit instead of causing him to adopt a philosophical and resigned attitude. When there was no chicken and no broth for the men in the hospital, he would calmly take his rifle and go into the chicken yards of the guards, and *ping! ping! ping!*—he would have twenty chickens for the men. And he would tell the furious guards they had no right to more than a few chickens when there were dying men in need of food. He would have the men in solitary confinement brought to the hospital for a month's respite, at the end of every three months in the awful cells. He never hesitated to tell the guards, and the Commandant also, when, how and where to go to the devil—and when he said anything he meant it and insisted on it, and it was done! . . . But he was recalled to France. The day he left the Islands, the convicts made and gave him a huge bouquet of flowers as he got into the rowboat. He has never been forgotten by the condemned.

Mercy Killing De Luxe

ADVOCATES of euthanasia have formed an American group with a membership impressive for its respectability and eminence. It calls itself the National Society for the Legalization of Euthanasia. On its advisory board are such prominent Englishmen as Havelock Ellis, Julian Huxley, the Earl of Listowel and H. G. Wells.

The founder of this outfit says that the group expects bitter opposition from medical men, who "may bring up their Hippocratic oath (dated 400 B. C.)." He also says: "But common men and women, faced with the practical problems of whether or not they will let their loved ones suffer torment for months before death, will cut through all this ancient red tape and somehow make it possible to do the decent and right thing."

"Most of the arguments against euthanasia are founded on emotion rather than reason." We suppose that no emotion will enter into the contemplation of wealthy aunts and dependent mothers-in-law, nor into any machinations to bump them off. We suppose, indeed, that no emotion enters into the ideas and efforts and utterances of this much irked group.

As to the mere age of our Hippocratic oath serving to discredit and nullify it, isn't this dangerous boomerang logic? The Sermon on the Mount itself is practically as old, with all its "ancient red tape", to wit: *Ye have heard that it was said by them of old time, Thou shalt not kill; and whosoever shall kill shall be in danger of the judgment.* By the same token one could sever oneself from all sorts of religious obligations, faiths and creeds. Should we do this? If we are really sincere and prepared to take such steps why not be honest and call our group the National Society for Cultural Murder?

Reversing Wassermann-Fast Minds

ONE notes an increasing rationalization of the Wassermann-fast phenomenon on the part of syphilologists. Thus Moore and Padget remark [*J.A.M.A.*110:96(Jan.8)1938] that "In cases of late syphilis . . . seroresistance may result entirely from the persistence of well established immunity." Among the aims of the treatment of syphilis they declare serologic reversal "least important." They further go on to say that "If the patient can be restored to health and kept so for a lifetime, seroresistance may be regarded as entirely analogous to the persistence of a positive reaction to the tuberculin test in a patient recovered from tuberculosis or a positive reaction to the Widal test in one recovered from typhoid fever. Efforts to abolish a persistently positive reaction to the tuberculin test or a positive reaction to the Widal test are agreed to be both unnecessary and futile." Of course, in patients with late syphilis, seroresistance makes even more imperative repeated search for abnormalities in the cerebrospinal fluid and cardiovascular and skeletal systems, with treatment planned accordingly. Certainly intensive efforts with drugs and artificial fever are to be discouraged when nothing more is sought than the reversal of the Wassermann.

Our minds, at last, have been reversed on this subject—an achievement much more important than the reversal of a harmless Wassermann.

Complacency

WE have been browsing through a quaint American publication, the *Philadelphia Medical Museum*, volume 2, pages 6-12, of the year 1806. Therein a Dr. William Watson, of Lewistown, Mifflin County, Pennsylvania, reports a case of "phthisis pulmonalis" successfully treated with mercury.

A young man twenty-seven years of age suffered an attack of "pneumonia" and this eventuated in "tuberculosis." The treatment began on the 10th of April and ended on June 15th, although complete recovery was not realized for several months thereafter. Daily bleedings of several ounces, extensive chest blisterings to the point of strangury, and much opium, digitalis, nitre and tartarized antimony comprised what might be called the minor phases of therapy, but the major dependence was placed upon mercury. The doctor says naively that he "had attempted this medicine with others, but they were too much exhausted before they would submit to its administration." The reported case was not so far gone, although suffering from a faltering pulse, profuse sweating and syncope. Half an ounce of strong mercurial ointment was rubbed into the sides and breast every night and morning and two grains of calomel given every hour, in addition to which four grains of calomel, in honey, was slowly dissolved in the mouth every night and morning to excite the gums and salivary glands locally. These methods failing to induce salivation quickly enough, two ounces of the mercurial ointment was employed every day. Blistering was then resorted to before the application of the calomel ointment and saturated bandages applied over the broken skin. The tartarized antimony was now pushed to the point of nausea, while calomel was rubbed into the mouth and gums and mercurial ointment was rubbed into the neck. The mouth had been sore from the beginning and the gums were sore from the third week, but salivation did not occur until the forty-second day of the disease. Two hundred and twenty-two grains of calomel and thirty ounces of mercurial ointment (one-third mercury) had been used before Dr. Watson noted the occurrence of salivation "with unspeakable joy."

The mouth and fauces were now much swelled and the calomel was stopped. The saturated bandages were continued until the first of May. Salivation in twenty-four hours amounted to as much as three quarts. The patient was extremely emaciated and was unable to raise himself in bed. "His breath indicated the action of the medicine." Ptyalism ceased on the fifteenth of June and the patient was then convalescent, indeed up and about. Wine, beer and porter had been used *ad lib*, throughout the treatment.

Recovery of health was rapid but the convalescent continued to drink half a gallon of beer daily. The voice continued

hoarse and weak, for he had been speechless for five weeks, on account of the tumefaction and soreness of his mouth, tongue and fauces. Ultimately, he became "perfectly healthy."

Dr. Watson graciously conceded that "It is not to be supposed that it (mercury) can effect a cure in every instance." Such clumsy thinking and consummate smugness would, of course, be blind to the central diagnostic fallacy in the case reported—which was beyond doubt an instance of syphilis of the lung. Otherwise the recovery of the patient could not be accounted for. Even in 1806 the fallacy should have been revealed by such a drastic therapeutic test.

The striking thing about some therapeutists, modern as well as ancient, is their complacency—of the Watson type. Such men are blissfully unaware of any dreadful implications in their work. Who, in his senses, will affirm that there are no such therapeutists today?

TUBERCULIN OINTMENT PATCH TEST

ERNST WOLLF and SAMUEL HURWITZ, San Francisco (*Journal A. M. A.*, Dec. 18, 1937), discuss their use of tuberculin ointment in the diagnosis by the patch test of 1,000 new cases. The ages of the patients ranged from 3 months to 15 years. The results have been better than with any other percutaneous application yet employed. The agreement between the ointment patch test and the intracutaneous test with 0.1 mg. of old tuberculin in 1,075 observations was 98.2 per cent. This corresponds closely to figures previously reported for some 800 observations. Discrepancies occurred only in clinically latent cases. The ointment test was positive in every case of active tuberculosis disease. Given an ointment test which is clinically equivalent to the Mantoux, its advantages are several. The ease and speed of application lend the patch test to general use in private practice and public health work. It overcomes the objection of psychologic shock and pain caused by the use of the hypodermic needle. No false positive reactions are encountered, as a control test is an integral part of the method and the area of the skin tested is protected as a routine by the adhesive plaster. The ointment is comparatively easy to prepare, is relatively inexpensive and has been found to retain its potency for a period of at least four years.

CIRRHOSIS OF LIVER IN ITS EARLY STAGES

Thomas P. Sprunt, Baltimore (*Journal A. M. A.*, Dec. 11, 1937), points out that in spite of increased knowledge of physiologic chemistry, the most valuable clinical data for the diagnosis of hepatic diseases are still to be obtained by a painstaking clinical history, a careful physical examination and other relatively simple methods of bedside observation.

PHYSICAL THERAPY FOR PAIN

1. Physical measures play an important part in both casual and symptomatic treatment of painful conditions. Their principal advantages are that their basic forms are easily available, they can be usually directly applied to the seat of disorder, and there is no danger of habit forming or idiosyncrasy.

2. The principal physical agents for the relief of painful conditions are mechanical and thermal; counterirritant measures in the form of Oudin current, ultraviolet irradiation, galvanism, and ionization have a small but definite scope of applicability.

3. The painful conditions in which physical measures play an important part of treatment are traumatism. arthritic and rheumatoid conditions. chronic inflammatory conditions, neuritis, and peripheral vascular disease.

—RICHARD KOVACS, M. D.
in N. Y. State J. of Med., Dec. 15, '37.

MODERN TREATMENT FOR *Defective Hearing*

HAROLD HAYS, M.D., F.A.C.S.
New York, N. Y.

SINCE the introduction of the audiometer and the routine examination of the hearing by accurate methods, a more rational state of mind has been developed in the specialist so that he is able to treat cases of deafness with greater exactitude. The subject is of considerable importance because no class of individuals lead more unhappy lives than the deafened.

The timeworn procedure of blowing out ears should, by this time, be discontinued and an exact interpretation made of the etiological factors which have a tendency to aggravate the condition.

For example, let us take the following case: A young, married woman comes to the office complaining of an increased impairment in her hearing. Examination shows the nasal mucosa in good condition; the tonsils have been well removed. Examination with the nasopharyngoscope shows adhesions in both fossae of Rosenmüller and an infiltration of lymphatic glands in the mouths of both Eustachian tubes, which are found stenosed. The ear drums are slightly retracted but show good motility. A test with the audiometer shows a moderate degree of deafness.

An analysis of the findings indicates that the deafness is due mainly to the lack of proper ventilation of the middle ears.

What is the proper procedure in such a case? The first advice given to this young woman is that she must not have a child. If she becomes pregnant, she must have an abortion performed; for it has been our experience in these cases that certain endocrine disturbances take place which decrease the hearing acuity to such an extent that nothing can be done to increase the hearing again. Next in importance is the elimination of the lymphatic tissue in the nasopharynx and Eustachian tubes, after breaking down the adhesions in the fossae of Rosenmüller. If time allows, such a patient is instructed to have deep x-ray therapy applied to the nasopharynx every two weeks until eight to ten treatments have been given.

DR. Herman B. Philips, to whom all our patients are referred for x-ray treatments, follows a definite procedure. During the past ten to fifteen years we have followed a series of about fifty cases. After the second, fourth, sixth and eighth treatments, the nasopharynx is examined in our office with the nasopharyngoscope and a test of the hearing made. In the majority of cases, the lymphatic infiltration has disappeared, the tubes are more patent and the hearing improved.

However, treatment can not be stopped here. Certain damage has been caused to the middle ears which must be overcome if possible. The Eustachian tubes must be dilated and proper massage given to the drums. Time does not permit us to go into details. Suffice it to say that when patients have been willing conscientiously to follow our advice, they have been well satisfied.

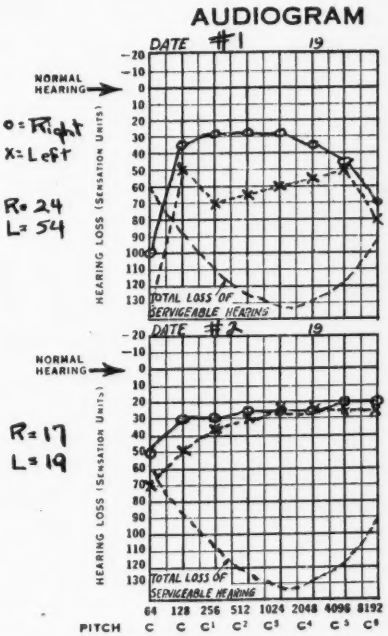
The intelligent ear specialist recognizes the fact that the ear is a special end-organ which can not be treated as a definite entity. The whole body mechanism must be taken into consideration. No better example can be given than is illustrated in the following case:

A woman, about thirty-six years of age, has been suffering from a thirty per cent loss of hearing for some years. At times she hears quite well; at other times she is almost completely deaf. The mucosa of the nose and throat is in

good condition; the ear drums have the proper light reflex and are freely movable. Mild politzerization gives all the massage necessary. She was sent to an internist for a complete examination. His findings show an unstable nervous mechanism with a glandular dyscrasia mainly caused by a uterine dysfunction. At one time this woman was wealthy but she has lost almost all her money by gambling and is down and out financially. The worry over her losses has aggravated the deafness. It is useless to attempt to improve the hearing in a case like this until a proper mental and physical balance is maintained.

A STRIKING case in point is that of a young woman of thirty, a school teacher, whose hearing defect was considerable, as can be seen by the accompanying audiogram. This was an extremely complex case. The patient had had innumerable useless nasal operations performed, with an atrophy of the mucosa as a result. There still remains a polypoid condition of the posterior tips of the inferior turbinates and an excess of lymphatic tissue in the nasopharynx extending into the Eustachian tubes. She has a very unstable nervous mechanism with considerable emotional instability. A careful physical examination revealed a basal metabolism of minus seventeen. We gave this patient routine treatment for six months, which improved the hearing to some extent, but we were not eliminating basic factors. A few months ago, she began x-ray treatments of her nasopharynx and has been able to overcome her emotional disturbances and to build up her general health. An examination of her hearing a short time ago shows that it is within the normal range (see audiogram). It is important to remember that no treatments to the ears have been given for over four months.

BUT what of the average run of cases one sees? Here is where the specialist meets with the greatest difficulties because the majority of these patients will not cooperate with the otologist. There is hope for a great many of them if they will listen to reason. But many patients expect a miracle to be performed in one or two treatments for a condition which has been gradually getting worse for years. Within the past few years we have seen three young people around the age of twenty whose hearing defects could have been improved decidedly if they had been willing to undergo treatments for a period of at least a year. But they had other more important things to do.



Of what does this routine treatment consist? The majority of deafened patients we see have some conduction deafness due to pathology in the Eustachian tubes. The tubes have become so stenosed that little or no air enters the middle ear during the normal act of swallowing or yawning. After correcting any pathological condition in the nose or throat, such as diseased tonsils, attention is directed to a dilation of the tubes. A certain technic must be developed. The nasal mucosa is shrunk with a dilute cocaine and ephedrine solution. The openings of the Eustachian tubes are applicated with a four per cent solution of cocaine. A Yankauer wire applicator is

wound with cotton, immersed in a cocaine and ephedrine solution and gradually, through a Eustachian catheter, inserted into the tube and cautiously allowed to progress farther and farther until it has passed the isthmus of the tube. After its withdrawal, the tube is further dilated by inserting a suitable bougie which has been saturated with a mentholated oil. The bougie is allowed to remain in place about fifteen minutes, withdrawn, and a determination made of the condition of the tube by mild inflation. No attempt is ever made forcibly to massage the middle ear unless adhesions are evident.

Certain adjuvants to treatment may be necessary, such as short wave diathermy and vibratory massage of the ears with the author's Comprex oscillator.

IN briefly outlining these methods of treatment, one must realize that no routine procedure may be advocated for every case. As a matter of fact, a keen analysis of each case must be made. The majority of patients will improve more rapidly if they can be persuaded to go to our private hospital for five to six weeks as ambulatory patients, during which time they can have daily treatments in the office while they are under a strict regimen and completely under control. We have had many patients hospitalized who have been more than satisfied that their hearing defect has been permanently improved, but such treatment is expensive.

An interesting case in point is the following: A young college girl had had a bilateral mastoid operation in childhood. Her deafness was apparent and, at times, under emotional stress, she became completely deaf. The ears could be politzerized very easily. Physical examination showed a toxic thyroid condition. She was much under weight and highly nervous. After a week in the hospital, during which time she had daily treatments in the office, we discovered that she had a severe hate complex against her mother (a most impossible woman) that affected her hearing considerably. The mother was requested to keep away from her. At the end of three weeks her hearing returned to normal. The entire story is too long to detail here. Suffice it to say that the mother, fortunately for this girl, died within two years. At this writing, ten years later, this patient's hearing is within the normal range.

IN conclusion, one must be impressed with the following facts:

1. A most thorough general physical examination must be made in all cases of deafness.

2. Causative factors in the nose and throat must be properly taken care of.

3. Suitable x-ray treatment to the nasopharynx will improve the hearing in selected cases.

4. Emotional instability, glandular dyscrasias, etc., tend to upset the hearing mechanism.

5. Hospitalization of deafened patients, with intensive daily treatment, will often bring about permanent improvement.

136 EAST 57TH STREET.

FLUORESCENT CHALK

A fluorescent chalk which glows with a strong green light and is visible at a distance has been developed recently by the Westinghouse Electric & Manufacturing Company.

This new material appears and marks like ordinary chalk under normal light. It glows in the dark when irradiated with ultraviolet rays such as from a sunlamp enclosed in a black globe.

Doctors find this chalk useful for jotting down memorandums on a blackboard during the course of a fluoroscopic examination. It also provides a new tool for the lecturer who, during the showing of stereoptican or moving pictures, wishes to put a visible written message on the blackboard for his audience. This novel medium is especially valuable for use during the showing of moving pictures with sound.

Alliaceous Agents IN THE RATIONAL THERAPY OF INFECTION

DAVID D. WAUGH, M. D.

Brooklyn, N. Y.

DURING the past year or so, there have been several interesting articles and letters concerning onions and garlic.

One of them (1) gives definite evidence that the odor of garlic and onions is transported by the blood stream from the digestive tract to the lungs. The other article (2) demonstrates the presence of a bactericide in raw garlic vapors. This is probably allyl aldehyde or "acrolein", stated to be an active bactericide in dilutions as high as 1:10,000,000.

I know of no evidence that allyl aldehyde is found in the blood stream after the ingestion of garlic and onions. But the association of an active bactericide in onion vapors, with their transportation by the blood stream, intrigued me immensely. The medical profession has been searching for years for a bactericide that would work satisfactorily *in vivo*. Right at present we are passing through a wave of enthusiasm for several new entrants in this field of chemotherapy.

If a bactericide, or antivirus, were to be absorbed from the digestive tract after the ingestion of onions, there would be several types of infection in which it would be expected to work. These are colds, grippe, pneumonia, poliomyelitis, encephalitis, cellulitis, lymphangitis, etc.; in other words, general or tissue infections, those in which the area of infection, even the bacteria themselves, come into almost immediate contact with the blood stream. Thus, if there is any bactericide in the blood stream, it would be most likely to work in such a disease.

On the other hand, surfaces, abscesses, cavities, and avascular tissues, might be unfavorable ground for preliminary experimentation, as the bactericide, being in the blood, might not be secreted, dialysed, or diffused into such tissues.

Thus, by working with general or tissue infections, the only point at issue is, the presence of a bactericide or antivirus in the blood stream.

IN ophthalmology, most of our infections are on surfaces, in abscesses, and in, or closely associated with, avascular tissues. This left me, primarily an ophthalmologist, without desirable preliminary experimental material. While giving thought to the problem, four upper respiratory infections in my immediate family were apparently aborted by eating raw onions. Finally, I developed what Dr. Kenneth Mac Gregor considered a lymphangitis with spreading cellulitis of the left ankle.

Case Report

September 12, 1937.

11 A.M. Wore a piece of skin off my left heel on the outer aspect, playing tennis.

September 13, 1937.

4 P.M. Injured area became painful and hurt on walking. Limping.

5 P.M. Hot soak for 15 minutes, followed by boric acid ointment dressing. No relief.

9 P.M. Hot soak with no relief.

11 P.M. No change.

September 14, 1937.

8 A.M. No pain in foot while in bed. However, on walking there was more than moderate pain with and without shoes. Limping.

9:30 A.M. Hot soak with no relief.

11:30 A.M. Hot soak with no relief.

5 P.M. Hot soak with no relief. At this

time it was first noticed that the area immediately above the original lesion was red, tender, swollen and hot. The area extended from the Achilles tendon to the lateral malleolus, and two centimeters above and below the tip of the malleolus. Its point of maximum intensity, or center, being four centimeters from the original lesion. The latter at this time was a very small, almost healed ulcer, which was tender, and then only slightly, when rubbed rather forcibly. No general symptoms, no streaks on calf.

8:30 P.M. Hot soak with no relief or change.

8:30 P.M. No relief or change. One onion sandwich ingested.

10:15 P.M. Area showed marked increase in pain, redness, heat and swelling, with definite dimpling over the posterior edge of the malleolus.

11:30 P.M. Pain, redness, heat and swelling are much less. Area is now almost flat. No pain on walking except when high on toes.

September 15, 1937.

8 A.M. Pain on deep pressure and extreme flexion of foot while in bed. No heat. Very faint redness. Definite concavity between the two prominences mentioned above. Very slight discomfort on walking. No more limp.

8:30 A.M. Slightly more swelling.

Noon. Slightly more swelling, just enough to abolish concavity.

6 P.M. Definitely more swollen, red and hot. Very little discomfort on walking, but definitely painful on standing. Swelling extended from the Achilles tendon half way to the toes, and four centimeters above and two centimeters below the tip of the malleolus. One onion sandwich ingested.

10 P.M. No pain on standing. No other change. One onion sandwich ingested.

11 P.M. More comfortable.

September 16, 1937.

8 A.M. No pain, redness, heat or swelling. Skin area is rather scaly with a brownish tinge.

8:30 A.M. Very slight swelling. One slice of onion in cereal.

9:15 A.M. Very slight swelling.

10:30 A.M. No swelling.

Noon. One onion sandwich ingested. No symptoms.

6 P.M. Symptom free and remained so to date. Original lesion healed entirely about 48 hours later.

Therapeutic measures were used only as stated above.

Review of Literature

ONIONS and garlic are not new therapeutic agents. Minchin (3) states that there have been references to the use of oil of garlic as far back as 1000 B. C., and almost continually since then.

Perez (4) quotes an article in 1903, referring to a herd of goats freed of ticks by feeding crushed garlic.

Beale (5), in 1904, recommends garlic in 15 grain doses for bronchial affections.

Hall (6), in 1913, suggests onions and garlic for pneumonia and tuberculosis, either inhaled, as a poultice, by mouth, or all three.

Marcovicci (7), in 1915, cites several controlled experiments in which "Allphen" and powdered garlic offered effective protection against lethal doses of Shiga bacillus cultures.

Garman (8), in 1917, stressed the value of garlic in septic conditions, and cited a case of chronic pneumonia, with rapid recovery attributed to the ingestion of garlic.

Also writing in 1917, Minchin (3) says that the oil of garlic is very volatile, with the power of penetrating the skin. It can be smelled on the breath ten minutes after being rubbed on the skin. It is eliminated by the lungs, liver, skin, kidneys, lacteal secretions, and the saliva. He says it is composed of allyl sulphide and volatile terpenes. It would appear to be nature's antiseptic, for it not only destroys many organisms of disease, but is also harmless to the body. It is good for typhoid fever, pneumonia, diphtheria, and is the best intestinal antiseptic he knows. He quotes Canazzani, in saying that garlic by mouth prevented the development of tuberculosis in guinea pigs after insufflation into the larynx of tuberculosis sputum. He uses a solution of garlic, 16 per cent, for ulcers, and an ointment of 50 per cent for carbuncles.

IN 1920, Willbrand (9) had good results in digestive disturbances, cholers, and typhus, following the use of garlic.

Berthelot (10), in 1922, found that

0.84 parts of "acrolein" or allyl aldehyde per 1000 sterilizes *Bacillus coli* in one half hour; 1.64 parts sterilizes staphylococci in one half hour; Bacillus subtliis required 16.8 parts per 1000; and *Bacillus mesentericus vulgatus* necessitated 25.5 parts per 1000.

Grossman (11), in 1924, says garlic is an invaluable aid in lobar pneumonia. He has used it in every case in his practice for over two years. In no instance did it fail to bring the temperature, pulse, and respirations to normal in 48 hours. In no case was the crisis deferred past the fifth day. He had only two deaths during these two years from lobar pneumonia. One was a bad diabetic, and the other was an eighty-year-old man who died of cardiac collapse after the sputum had ceased and the temperature had fallen to normal. In one case the temperature fell from 105, in another from 104, to normal in 48 hours. Small doses are no good. Tincture of garlic, one half dram every 4 or even every 3 hours, is recommended. It is equally efficacious in septic bronchitis, and in bronchiectasis. Even in early phthisis it seems to have a beneficial action. He strongly advocates this "quick and certain cure for lobar pneumonia."

Dombray and Vlaicovitch (12), in 1924, found definite evidence of antisepsis in essence of garlic.

Perrin, Dombray, and Vlaicovitch (13), also in 1924, give 0.5 cc. of tincture of garlic as the lethal dose, per kilo, for rabbits.

Roos (14), in 1925, uses garlic in diarrheas with good results.

Goglia (15), also in 1927, observed several cases of tuberculosis and enteritis benefited by the use of onions.

Wolf (16), in 1927, uses garlic in intestional tuberculosis, the tuberculosis remaining the same, but the diarrhea improving.

Bonem (17), in 1928, reports a case of chronic diarrhea with rapid improvement after the ingestion of onions.

BLANKENHORN and Richards (1), in 1936, show that in operated cases of cancer of the larynx and esophagus, in which the digestive and respiratory tracts were completely separated, the ingestion of onions was shortly followed by the characteristic odor on the breath.

McKnight and Lindegren (18), in 1936, show that the vapors of crushed garlic lessens the rate of fertility of *Bacterium leprae.*

Courmont, Morel, Perrot and Sanlavill (19), in 1937, say that the essence of garlic lessens the fertility of tubercle bacilli.

Vollrath, Walton, and Lindegren (2), also in 1937, report that the action of allyl aldehyde or "acrolein" vapors, in the concentration in which it might be expected to occur in onions and garlic, produces the same phenomena as crushed onions and garlic. This is shown to be the sterilization of agar plates, after the exposure to the vapors for thirty minutes, when subsequently streaked with a suspension of *Bacillus coli.*

Investigation

AS previously stated, the clinical material at hand was not considered proper for preliminary investigation, so it was decided to use other than clinical methods for this work. Since it was felt that there was a bactericide in the blood, the simplest method of ascertaining this appeared to be the following. A loop of a suspension of bacteria is placed in a sample of blood (defibrinated) and incubated for different periods of time. At the end of these periods agar is added and the whole plated. Bacterial counts are then made at the end of 48 hours (in the case of staphylococci). In this way comparisons could be made between the blood of a person before and after eating onions.

While the work outlined above was in the process of evolution, the following plan for further investigation was formulated.

I. Bactericidal determinations comparing the action of serum to that of blood.

II. Opsonic indices.

III. Animal experimentation.

IV. Identification and use of the active principle.

V. Clinical investigation.

A Study of the Effects of Defibrinated Blood on Staphylococci, after Ingestion of Raw Onions

THIS method seemed to offer the best ground for approach, since the blood

has apparently lost only its fibrin, which in itself probably has little or no rôle in the type of infection mentioned previously. The blood was defibrinated by collecting it in sterile glass flasks, containing pieces of broken glass tubing. These were shaken together until all clotting had ceased. The amount withdrawn was usually ten cc.

Of the total of 25 determinations done, a comparison between the blood of a person who had eaten raw onions, with the blood of one who had not, was done in the first thirteen. This was done in order that as many as possible of the laboratory variables would remain the same in both cases.

In the last twelve cases, a determination was made in the same person before and after eating raw onions. Thus the variables due to differences in the several individuals' bloods were eliminated.

The blood was collected at various intervals, usually from 3 to 4 hours after the ingestion of a raw onion sandwich. The ordinary small northern cooking onion was used in all cases. This was usually given as an onion sandwich, although in several cases it was given as onion juice.

With the exception of the collection of the blood in the last 12 cases, all comparative steps were performed at as small time intervals as was possible.

AS soon as possible after collection, one cc. of the defibrinated blood was placed in each of five test tubes.

A suspension of staphylococci was then prepared in normal saline and diluted, until a beam of light, in a dimly lighted room, was just visible passing through the suspension. This was considered a minimum turbid suspension, and various dilutions of this suspension were used as the source of organisms. A new suspension was made up fresh, from a culture on an agar plate, before each experiment. A three mm. loop of these varying (1 to 4, to 1 to 20) dilutions, added to each cc. of blood, furnished from 400 to 2400 viable organisms.

In all the determinations, except the first, the first tube was plated with agar immediately after the addition of the bacteria, and then incubated. Subsequent pourings were made at the end of 2, 4, 6, and 12 to 17 hours, with the exception of the first experiment, when a pouring was made every 45 minutes.

Both the poured plates and the inoculated blood were incubated at 37.5° C. The agar used was a prepared agar containing beef extract and peptone.

After the plates had been incubated for 48 hours, colonial counts were made, counts above 1000 being estimates, below that figure being actual counts.

		0 HOURS	2 HOURS	4 HOURS	6 HOURS	8 HOURS
I	N	----	880	860	830	----
	O	----	580	975	1400	----
	SN	----	1800	1800	1800	----
	SO	----	1400	1500	1600	----
II	N	----	625	875	1140	----
	O	----	475	560	630	----
	SN	----	1600	1500	1400	----
	SO	----	2000	1900	1800	----
III	N	240	775	330	----	
	O	180	1600	1000	----	
	SN	----	----	----	----	
	SO	----	----	----	----	
IV	N	150	1600	1875	2000	----
	O	120	1000	1000	1000	----
	SN	----	----	----	----	----
	SO	----	----	----	----	----
V	N	327	41	20	12	11
	O	262	22	12	9	13
	SN			28		
	SO			350	----	
VI	N	214	30	15	6	6
	O	299	12	8	6	6
	SN		22	15		
	SO		22	12	----	
VII	N	2600	6000	3500	3600	3600
	O	2600	4000	3500	3000	3200
	SN	2600	4000	4000	4000	4000
	SO	2600	4000	4000	4000	4000
VIII	N	2600	2600	2600	2600	----
	O	2600	2600	1500	1500	----
	SN	2600	4000	4000	4000	----
	SO	2600	4000	4000	4000	----
TOTALS	N	6131	12551	10075	10088	3617
	O	6064	10289	8545	7545	3219
	SN	5200	11422	11343	11200	4000
	SO	5200	11422	11762	11400	4000
$\%-\frac{O}{N} \times 100$		98.4	81.9	84.8	74.8	89.0
$\%-\frac{SO}{SN} \times 100$		100.0	100.0	103.9	101.9	100.0

---- = innumerable colonies
N = blood before onions
O = blood after onions
SN = serum before onions
SO = serum after onions

FIG. 1.

The bacteria were strains of *Staphylococcus aureus* and *albus*, obtained from cases of prostatitis, conjunctivitis, and sinusitis.

In the 2nd, 16th and 17th experiments there was no growth in any plates. In the 3rd there was such profuse growth on all plates that even an estimate could not be attempted.

GRAPHS were prepared from the results of the remaining 21 experiments. The normal in the 4th was a case of sympathetic ophthalmia who was receiving milk injections for non-specific protein therapy at the time the blood was taken. The same subject was used as the normal in the 5th experiment. In numbers 20 and 21, the onions were eaten only 1½ and 2 hours before the blood was taken. Numbers 7 through 13 were done at daily intervals on an original 50 cc. sample of blood, kept at 6° C. during the intervals.

The graphs were prepared by plotting the number of colonies per plate against the number of hours that the bacteria were in contact with the blood, before the agar was added. A table (I) was then prepared from the graphs, showing in each instance the height of the graph at 0, 2, 4, 6 and 8 hours of contact between the blood and bacteria.

COMPARISON between the total number of colonies in the onion blood with the normal blood, for the above mentioned time intervals, gave the following percentages for the entire series of 21 experiments. Immediately after the addition of the bacteria there were 90.9 per cent as many colonies in the onion blood as in the normal. After 2 hours this percentage had fallen to 49.8, after 4 hours to 37.2, after 6 hours to 53.7 and after 8 hours to 58.0.

Thus it would appear likely that after the ingestion of onions, the normal bactericidal properties, *in vitro*, of defibrinated blood, are augmented. This lends weight to the hypothesis that there is a bactericide in the blood stream after the ingestion of onions.

		0 HOURS	2 HOURS	4 HOURS	6 HOURS	8 HOURS
I	O		200	35	15	
	N		700	540	530	
IV	O	1175	260	375	500	650
	N	1650	300	160	140	60
V	O		2800	1100	1300	1100
	N		3000	1700	1050	900
VI	O	475	200	90	30	400
	N	440	300	170	90	50
VII	O	340	170	120	60	100
	N	2200	900	700	240	800
VIII	O	92	45	117	10	8
	N	148	122	112	105	120
IX	O	390	525	340	220	*250
	N	490	850	950	1400	----
X	O	192	168	62	58	*28
	N	250	192	170	112	----
XI	O	248	60	80	500	----
	N	230	85	110	700	----
XII	O	325	280	255	----	
	N	475	275	210	*600	
XIII	O	42	280	210	----	
	N	67	125	290	----	
XIV	O	490	30	10	15	----
	N	800	300	160	90	----
XV	O	950	90	85	110	210
	N	800	650	410	240	450
XVIII	O	2000	600	150	60	25
	N	2000	1350	650	255	275
XIX	O	2000	850	280	90	25
	N	2000	950	350	160	160
XX	O	2300	600	410	550	----
	N	2300	900	550	350	----
XXI	O	2300	725	525	490	----
	N	2300	700	600	600	----
XXII	O	2000	1300	700	400	410
	N	2000	2000	1700	1700	2000
XXIII	O	2000	1300	500	400	----
	N	2000	1700	1500	1600	----
XXIV	O		220	87	71	127
	N	*560	135	88	147	125
XXV	O	11000	2500	780	780	780
	N	11000	11000	6250	1000	1000
TOTAL	O+N	59469	39737	23831	16168	9385
TOTAL	O	28319	13203	6461	5659	3445
TOTAL	N	31150	26534	17370	10509	5940
$\frac{O}{N}$ ×100	%	90.9	49.8	37.2	53.8	58.0

---- = innumerable colonies
* = not added in totals
O = after onions N = before onions

FIG. 2

A Comparison of the Effects of Defibrinated Blood and Serum on Staphylococci, after the Ingestion of Raw Onions

WITHOUT wishing to enter into a discussion as to whether the results cited above show the presence of a bactericide, bacteriostat, antivirus, opsonin or any other property, I wish to cite a second series of experiments designed to give evidence as to its mode of action.

The technique employed was the same as that used in the last 12 experiments of the first series. However, instead of 2 parallel studies for each experiment, it was now necessary to have 4 parallel runs, 2 on the blood and 2 on the serum. Due to the fact that opsonic indices were done on the first 4 cases, the present work was done about 18 hours after the collection of the blood. The last four were done as soon as possible after the collection.

Graphs were prepared as in the previous study and a table (II) computed from these. Immediately after the addition of the bacteria to the blood there were 98.4 per cent as many bacteria in the onion blood as in the normal. After 2 hours this had fallen to 81.9, after 4 hours to 84.8, after 6 hours to 74.8, and after 8 hours to 89.0.

The serum, on the other hand, showed immediately after inoculation 100.0 per cent as many bacteria in the onion serum as in the normal. After 2 hours the figure was still 100.0, after 4 hours 103.9, after 6 hours 101.9, and after 8 hours 100.0.

A COMPARISON, numerically, could not be effected between the serum and the blood, due to the fact that in two of the cases the growth in the serum was too promiscuous to estimate, and in two others not enough determinations were done. However, a glance at the table will show that the blood shows a materially higher bactericidal action, probably about 2 to 1.

The four opsonic indices were 1.22, 0.97, 0.95, and 1.45.

Thus, after the ingestion of raw onions it would appear likely that the normal bactericidal properties of serum, *in vitro*, are not augmented. Further evidence is produced that the normal bactericidal properties of blood, *in vitro*, is augmented, following the ingestion of raw onions. It would also appear that blood is a better bactericide than serum. It is also shown that the bactericidal properties of blood and serum, *in vitro*, last for about 10 hours, at 37.5 C., after which apparently free growth takes place.

WHETHER the Allium family is "nature's antiseptic", whether it is "a quick and certain cure for lobar pneumonia", whether the active principle is "acrolein" or some other substance, are all interesting aspects of this subject. What is its specificity for different organisms? The height and duration of its concentration in the blood stream? Its toxicity? Its mode of action? What are the tissues and organs into which it is secreted? These are all questions to which time holds the only answer.

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253 CUMBERLAND STREET.

POSTERIOR *Urethritis*

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THIS condition is so common in the course of gonorrheas that some authorities assert that it occurs in all cases. It would be a useless waste of time and space to argue this point. Its very frequency suffices. Indeed, its very frequency is such that many doctors do not attach to it the importance that it merits. But if we will pause a moment to consider the posterior urethra anatomically we must realize that from its involvement may and do spring complications of great importance.

On the floor of the posterior urethra are the openings of the prostatic ducts. The number of these varies. According to Lowsley's studies these may be as many as forty in number in the very young but this number decreases as adult age is reached. Still, plenty remain to give easy entrance to prostatic infections. Routine microscopic examinations of prostatic smears reveal this frequency and the smears often show pus cells per field that are much too numerous to count.

Also in the posterior urethra and more important even than the openings of the prostatic ducts is the verumontanum with openings of the ejaculatory ducts and the sinus pocularis. About infectious invasions of the latter we know nothing. However, epididymitis is not at all a rare occurrence. To reach the epididymis the infection must travel through the ejaculatory ducts to the vesicles, then through the vas to reach the epididymis —rather a long route.

The important point is that infections of the prostate and epididymis are preceded by and spring from a posterior urethritis. It is the writer's experience that only very rarely is the infection strictly confined to the posterior urethra with no invasion of the prostate or the seminal vesicles or the epididymis occurring. From careful observation and study, extending over a period of more than ten years, the writer is firmly convinced that involvement of the seminal vesicles which does not extend to the epididymis is very much more frequent than is generally believed by many specialists in this field.

Causes

The commonest cause is inept injection, not only by the patient but sometimes also by the doctor. Then, too early instrumentation. Lastly, just the extension of the infection. During the war, for a time, cases of gonorrhea were confined to bed on a liquid diet, without any medication or any local treatment of any kind. Still, posterior urethritis and even epididymitis occurred among those cases.

Posterior urethritis may be acute, subacute or chronic. In the acute stage there is pollakiuria, increased ardor urinae, chordee, and nocturia, which may be as frequent as every hour. Patients frequently complain that both the ardor urinae and the chordee are most intense in the perineal region. The last few drops of urine may even be bloody. Both urines are cloudy; even a third specimen may be cloudy, which would seem to mean that the infection has extended beyond the bladder neck.

Subacute Stage

All the above symptoms are much ameliorated; the nocturia even reduced to once a night, but both urines are still cloudy.

Chronic Stage

This may be almost symptomless or the first urine may be still cloudy or only

hazy or both urines be perfectly clear. Sometimes the first urine contains comma-like particles. Some patients complain of intermittent burning during urination. At times, when the bladder is full, the necessity to void becomes imperious and some urine escapes control. Some patients complain of excessive moisture in the canal which is more marked in the morning. But none of these symptoms are constantly present in every case. Usually the patient will remember his experience of the acute stage, if questioned.

Treatment

During the acute stage all local treatment should be suspended. Hot sitz baths twice a day if possible. Oil of santal, 30 to 40 minims, if the patient can stand such dosage without the production of fever or bachache. Mist. copaiba co., drams two, four times a day if it does not produce a copaiba rash. Hexamethylenamine—four to six tablets a day.

Which of these is the best? That depends entirely upon the individual—upon the case. Sometimes the copaiba mixture acts better than the oil of santal and sometimes the hexamethylenamine acts better than either the santal oil or the copaiba mixture.

At the Brooklyn Hospital Dispensary we also administer one of the commercial mixed stock vaccines with good results.

Treatment of Subacute Stage

When the nocturia and the urgent frequent urination have abated, light massage on a full bladder may be begun. But the bladder should not be filled through a catheter. Instrumentation even with a Nélaton catheter is still inadvisable. To fill the bladder with some disinfectant solution without using a catheter is not always possible because some patients seem never to be able to learn how to relax the 'cut off' muscle. In some cases it is much better to massage with the bladder full of urine. This is voided after the massage and the canal irrigated with some antiseptic solution. A week later this same procedure may be followed by an instillation of $AgNO_3$, 1 p/c, after the irrigation. Make haste slowly is a good maxim in these cases; especially about passing sounds.

Sounds should be passed, beginning with the smaller sizes. Twenty-two or twenty-four F. up to twenty-eight, even if a meatotomy is necessary. The sounds help to prepare the canal for the final subsequent instrumentation and treatment. When the sounds are well tolerated, then the time has arrived for endoscopic treatment of the posterior urethra. This is not a pleasant experience, one that the patient will enjoy. A local anesthetic other than cocaine may be applied, but so far none of them is very satisfactory. The urethroscope should be 26F. in caliber; the smaller sizes are not very satisfactory. The writer prefers the straight instrument rather than the beaked one. The latter gives only a view of the floor of the urethra, while the straight allows all sides of the canal to be seen. It is true that the beaked instrument is easier to pass and slightly more comfortable to the patient, but do we see all that we should see?

What should be applied topically? That depends much upon the doctor. Some are content just to apply tincture of iodine; some prefer phenol, 50 per cent in glycerine. Others, and among them the writer, prefer nitrate of silver either in 10 per cent or 15 per cent solution. Stronger solutions leave the patient uncomfortable a little too long.

A word of warning about the applicators may not be out of place. When these are wrapped and lie for a few days the cotton will loosen and may slip off. That is an annoying thing to have happen. Even if an alligator forceps is handy, it is not always possible to recover the cotton. If it remains in the canal for some time and contains the nitrate of silver solution it can produce very unpleasant consequences. To avoid this the writer has adopted the practice of dipping the applicator in a thin solution of shellac and while it is still wet wrapping the cotton on it.

Endoscopic treatment of the posterior urethra is capable of doing much good, and not only from the standpoint of a purely local result, for several of the writer's patients, dispensary and private, have volunteered the information that they experienced better erections and even solicited the repetition of the treatment, which after all is not such a pleasant experience.

This treatment is clearly indicated in many cases and is capable of accomplishing much good. Yet in spite of this well established fact, it is surprising how much it is neglected both in private and dispensary practice. The reluctance of our dispensary colleagues to do endoscopies is hard to understand. They seem to be annoyed if they have to do one while they will eagerly jump at any opportunity to do a cystoscopy. Is the one more objectionable than the other?

Is it because the urethroscope is comparatively a crude instrument that has not been improved and perfected as has been the cystoscope? True, the illumination in the commonly used types is unsatisfactory. There are two types of illumination in the commonly used types. One is the distal, as in the Swinburne. The lamps are small, necessarily so; delicate, short-lived and expensive. The illuminated field presents a myriad of baffling reflections. The other type of illumination is the proximal, as in the Hugh Young type, but the lamps are woefully lacking in power. When we compare the lamps that are supplied to us for this type of instrument with some of the bulbs that are purchasable in the "Five and Ten" stores for pencil lights, taking a voltage of two and one half volts, we cannot help but be disgruntled with what our instrument makers furnish us. True, there is an endoscope on the market with splendid illumination of the proximal type, but its price is so ridiculously out of all proportion to its materials and construction costs that only folly will purchase.

The McCarthy instrument is splendid for examination but of little value in giving accurate local treatments. This brings us to another factor in endoscopy. Magnification is desirable. This is proven by the fact that small magnifying lenses are attached to some urethroscopes. These are practically useless, since when treatments are to be made they must be swung aside. Hence any magnification to be of any use must be attached to the operator's head. This can be attained in one of several ways. Probably the strongest magnification is obtained by the short focus opera glass type devised by George Luys of Paris, but it requires a little practice to keep the urethroscope in the line of vision with the magnifying instrument.

Maybe some day the instrument makers will give us better urethroscopes at reasonable prices and then doctors in this line of work will be less reluctant to do it.

46 HANSON PLACE.

MANDELIC ACID AND SULFANILAMIDE

HENRY F. HELMHOLZ, Rochester, Minn. (*Journal A. M. A.*, Sept. 25, 1937), avers that the introduction of mandelic acid and sulfanilamide has greatly improved the chances of curing urinary infections. Mandelic acid is dependent for its action on a concentration greater than 0.5 per cent and a *p*H of the urine less than 5.5, so that it is not likely to be successful unless the function of the kidney is normal or nearly so. The inability to reduce the *p*H of the urine of patients with Proteus infections makes mandelic acid therapy almost useless in the treatment of such infection. Its action on Streptococcus faecalis, however, makes it the antiseptic of choice for this type of infection. Sulfanilamide, because of its ease of administration and tolerance by the stomach, is the drug of choice, however, in the average case, and it has the added advantage that it can be used during the acute stage of the disease. Acting best in an alkaline urine, sulfanilamide should be extremely useful in treating infections of the Proteus group. Its striking ineffectiveness in the treatment of Streptococcus faecalis infections, however, is a definite handicap. These two drugs, one acting only in an acid and the other best in an alkaline medium, supplement each other, and they should be used in the treatment of urinary infections according to the type or types of organisms causing them.

Surgery IN THE CONTROL OF PULMONARY TUBERCULOSIS

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ALTHOUGH certain aspects of my preliminary remarks will be a repetition of some principles with which we are already familiar concerning the control of pulmonary tuberculosis, in order to make clear the relationship of surgery to the cure of the disease, this reiteration is essential.

The cure of pulmonary tuberculosis is fundamentally dependent upon two very basic principles—rest and compression. Practically all treatment is founded on their use. In its simplest form, bed rest stands first and is indispensable in the active case whether the problem presented by the disease is surgical or medical.

When the disease is first recognized and a diagnosis established, medical treatment is usually indicated, to which a large number of cases will respond most satisfactorily. At this time some may require surgical interference, but they represent the exception rather than the rule. In pulmonary tuberculosis a professionally open mind is most important, in view of the recent advances in surgery, and we must have available all that modern surgery has to offer. In essence, this means that to intelligently treat the disease, close co-operation of surgery and medicine must be maintained.

Competent medical management frequently controls and arrests the disease, but the substantial number that do not respond to this form of treatment are doomed to an early death, or protracted invalidism and death, unless the diseased lung can be collapsed by surgery. The group with active disease that do not respond satisfactorily represent a grave problem to preventive medicine; first, because their life expectancy is tragically limited, and second, the danger of reinfection in the community.

OF the more recent surgical methods of dealing with pulmonary tuberculosis, pneumothorax is the one most frequently used. The amount of pressure that is used in each case depends upon the extent of the disease present. Pneumothorax, carefully administered, will suffice to control the disease in a large number of patients.

Unfortunately, as a reaction to the disease, in many cases a firm dense band of tissue has formed on the surface of the lung, preventing satisfactory collapse, in spite of the air injected into the chest cavity. The pneumothorax can only be effective in these cases after cutting this adhesion or band of tissue and allowing the lung to collapse. Under local anesthesia the thorascope is inserted into the chest through one or two openings about one-eighth to one-fourth of an inch in diameter. The adhesion is located under direct vision and is then cut with an electric knife. The operation is known as intrapleural pneumolysis, or a Jacobæus operation, since a distinguished Scandinavian, Dr. Jacobæus, devised the first instrument. In spite of its apparent simplicity I view this operation with as much concern as any surgical procedure associated with pulmonary tuberculosis and it should be undertaken only after the more conservative methods have failed. The results, in the correctly selected cases, are most brilliant.

Another type of operation that brings most startling results is performed on the phrenic nerve to paralyze the diaphragm, thereby limiting the amount of

lung activity. We plan the procedure according to the length of time we feel the paralysis should last. By various methods the paralysis can be controlled so that it will be effective from a few hours to six or eight months. In some special cases the paralysis of the diaphragm is made permanent by completely removing the nerve. This operation produces two very important things: first, the lung will not function so actively; and second, when the diaphragm is resting, it has a tendency to rise in the chest cavity, thereby producing compression of the diseased lung. With these elemental principles, rest and compression being produced by this method, we have the foundation established for a cure. The phrenic nerve comes close to the surface at a point about one inch above the clavicle at its inner end. It lies close to important nerves and arteries which control the most vital functions of the body and consequently the technical aspects of the operation must be done with great care. In our experience it has, with a minimum of risk, produced most startling results, but again the correct selection of cases is most important. These two operations, that is, the cutting of adhesions in the chest cavity and the paralyzing of the diaphragm, are surgical procedures in pulmonary tuberculosis that carry a very low risk; it should never exceed .5 per cent.

THE next type of surgery represents a problem of greater magnitude. Thoracoplasty causes the chest wall to collapse on the tuberculous lung, thereby compressing and resting it. The number of ribs removed will depend upon the extent of the disease. This is one of the most formidable operations in surgery, but the deformity to the chest is negligible, and many patients have been restored to health and made capable of doing their work with no outward evidence of disfigurement. There are nurses who have had this operation that are doing active hospital duty with no apparent deviation from normal. We view this operation as a great contribution to the treatment of pulmonary tuberculosis and recent advances now show that we are able to do less extensive operations with better and more permanent results. The risk in this operation is about 2 per cent, but this is a negligible factor when we consider the otherwise hopeless future of the patients requiring it.

In certain cases a very troublesome complication develops in which fluid is present in the chest. It is very important to point out at this time that if the fluid in the chest is not infected and is giving the patient no marked symptoms, it may often be left there; in fact, nature is compressing the lung with fluid—probably more satisfactorily than we can with air. If this fluid in the chest should become infected, it is necessary to remove it either by drawing it out, or by removing a small piece of rib and permitting the pus to drain out. I would like to emphasize that in pulmonary tuberculosis thoracotomy should be undertaken only after great deliberation, because a chronic discharge from these cases presents one of the most difficult problems in chest surgery.

The various operations just briefly discussed are the basic ones for the control of pulmonary tuberculosis. At times, modifications or combinations are used, but they constitute the main structure on which modern surgery has contributed so vitally to save and give new life to this unfortunate group of the sick.

Our studies support many other investigations which show that this disease is one of the poor and the young, and the most stimulating phase of our work in this field is the salvaging of this group, whose youth and desire to live is tragically terminated on the very threshold of their careers.

THE ideal philosophy of medicine would be Utopian if surgery were unnecessary, but at the present time there is ample evidence to show that tuberculosis can be conquered only with the most heroic surgical efforts. The thing that stands out as fundamental in this campaign against the disease is early diagnosis. The general public is still recognizing only the advanced cases of pulmonary tuberculosis. This erroneous viewpoint is most lamentable and is unquestionably the cause of many tragedies. The opinion has been prevalent, and rightly so, that cough, hemorrhage, night sweats, fever, lack of appetite, and great losses of weight and strength demand investigation. Today we realize that these repre-

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Medicine IN A CHANGING SOCIAL ORDER

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THE complex problem of individual and community health is the profound concern of the medical profession. No one gives it such constant thought and study, nor is anyone better qualified to speak on this perplexing problem, than the physician. Yet all in our profession are not in harmony as to the best means of caring for the health of the public as a whole, nor are they in harmony upon the question of the nature of the relationship which should exist between the state, the individual, and the physician. The ultraconservatives in our profession believe that the present relationship is ideal. On the other hand, a strongly opinionated, radical group feels that only through complete government control of the practice of medicine can its problems be brought to satisfactory conclusion. Fortunately, these two extreme views represent only minority opinions in our profession.

The vast majority of physicians realize, in these changing times, that changes are necessary if medicine is to keep pace with the progress being made in other fields. They would bring these changes about by a process of evolution within the profession, rather than allow them to be effected by revolutionary forces without. And above all, the majority are strong in their opposition to state medicine as the modern panacea for the ills besetting our profession. The medical profession, with just pride, points to its record of past accomplishments. It has ever been ready and willing to improve its methods and to discipline its members that it might render better service to the public. It has repeatedly stiffened the educational requirements of the physician. It has weeded out the poorer medical schools. It has set high standards of qualification for its members and for the hospitals in order that their usefulness and efficiency in service to the sick might be increased. It has given liberally and unselfishly of its time and of its talents for the care of the needy and suffering members of society. This long and honorable course of our profession does not justify the conclusions of certain socially-minded individuals, foundations, and government officials, whose motives are not always above question, that the profession is no longer able to manage its own affairs and that it must therefore turn over the entire care of the public health to the state.

State Medicine

THE last five years have witnessed the costly, inefficient and, in the main, unsatisfactory control of other less vital agencies by the government. Has not society and the medical profession alike the right to believe that a similar fate may befall medicine under some form of compulsory health insurance or state control? Can we be insensitive to the unhappy experiences of our confrères in England, Germany and Austria, where compulsory health insurance and state medicine have been in operation for several decades? It is common knowledge that physicians forced into this system are frequently obliged to undertake far more work than they can deal with efficiently, in the hours at their disposal. Naturally, they

President's Inaugural Address, Medical Society of the County of Kings and Academy of Medicine of Brooklyn, January 18, 1938.

fail into hurried and careless methods of diagnosis and treatment to the detriment of their patients and the dulling of their own mental processes. Much of their time is taken up with neurotics and malingerers who during the day tax their patience with unnecessary office visits, and during the night disturb their sleep by calls for trifling or fancied illnesses. Under these systems it has been shown that periods of illness and disability are greatly increased and available statistics prove that the death rate is higher than that in our own country.

THE abuses arising from such control exercised over the medical profession by unscrupulous politicians, politically-minded physicians and full-time, salaried, college professors who have little conception of the everyday problems of the rank and file, would further tend to demoralize our profession. Careful observers have noticed a serious deterioration occurring in physicians under state medicine, due to the loss of stimulus for research and advancement, vital factors in the progress of medicine. To offset this, the proponents of state medicine assure us that only under such a system would "adequate medical care" be available to all. They assure us that only under such a system could economic security be realized by physicians and the evils of fee-splitting and commercialization be banished. In the light of what has happened to the profession in England, in Germany and in Austria, such assurances fail to assure.

The trend of government in Washington during the past year has been toward compulsory health insurance and state medicine. Early in 1937, public funds were allocated for the study of compulsory health insurance with a view to its applicability under the Social Security Act. Later, $20,000 of Home Owners Loan Corporation funds was granted outright for the organization of a medical clinic in the city of Washington, to offer all medical services to employees of this government bureau and their families at a small monthly cost. A further grant of $20,000 was allowed for this year. This clinic has been in operation for the last three months. Its set-up is such that it may be readily expanded to include all Federal employees in the Capital City. What is to prevent them from carrying the experiment still further, to take in the vast army of government workers throughout the nation?

A NUMBER of bills, of interest to the profession, will be introduced in the Senate of the United States at this session. Two among them are of particular interest: one adding compulsory health insurance to the Social Security Act, and the other designed to make all physicians employees of the Federal Government. Such measures can be defeated only by a thoroughly aroused medical profession, under the leadership and guidance of organized medicine, supported by an informed press and intelligent public. That informed public opinion can and will defeat such proposed laws, which are detrimental to the public good, has been amply demonstrated in the defeat of the bill tampering with the Supreme Court of the United States.

The Public Health Service and state and community departments of health are recognized and accepted as proper functions of government by the medical profession. The profession realizes that only through such agencies, invested as they are with police power and backed by public funds, can the public health be safeguarded and serious epidemics prevented or controlled by proper quarantine. It is only with such allies that the profession can fight successful campaigns against contagious and infectious diseases, and insure the sanitary safety of water, milk and other food supplies. However, the profession is unalterably opposed to allowing government, whether Federal, state or local, to appropriate to itself the right to treat patients,

INDIGENT and medically poor patients, at present, constitute a large portion of our population and have become an increasingly great burden upon the time and activity of most physicians. This is a burden which the medical profession, in reason, cannot be asked to carry unaided forever. It is time, therefore, that society and serious-minded public officials should come to the assistance of the medical profession and lighten the burden of caring for these less fortunate members

of society. This can best be done by providing ample diagnostic laboratory facilities for the study of these patients, and by assuring reasonable compensation to physicians for treating them. The responsibility for the administration and proper functioning of such a program in each locality should rest upon the local county medical society in cooperation with the Department of Health. That organized medicine can render such administrative service honestly and efficiently, and for the best interests of the public and of the profession, has been effectively demonstrated during the past two and a half years in its administration of the amended Workmen's Compensation Law in the State of New York. Such a plan, so administered, would insure adequate medical care to the indigent and medically poor patients. Such a plan, so administered, would enable these patients to be treated by the physicians of their choice, and bring to these physicians some assurance of economic security. Medical service to indigents, like food, clothing and housing, must be paid for. The public and public officials must be brought to a realization of this fact. It is unfair to the physician to ask him to bear the burden alone. Community health is a community good. To pay for it may mean increased taxation, possibly aided by State and Federal grants; however, it is to be paid for, and it is high time that the physician's compensation for medical service to the unfortunate of the community be looked upon as an obligation by the community.

POSTGRADUATE MEDICAL EDUCATION

POSTGRADUATE training for physicians is a fundamental factor in achieving and maintaining the highest quality of medical care. Our County Society was a pioneer in this field of medical education, through the vision and energy of the late Dr. Frank D. Jennings. In 1922 the Clinical Committee, with Dr. Charles A. Gordon as its first chairman, initiated the popular Friday afternoon lectures. Their immediate success stimulated the growth of similar clinical lectures in other county societies throughout the country. It soon became apparent that bedside postgraduate teaching was a necessary adjunct to the clinical lectures held in this auditorium. After solving certain legal difficulties at Albany, a Committee on Graduate Medical Education was organized the same year. Joined with a similar Committee of The Long Island College of Medicine, it became the Joint Committee on Medical Education, again with Dr. Charles A. Gordon as Chairman. Under his leadership during the past fifteen years, great advances have been made in postgraduate teaching in Kings County. This year he has relinquished the Chairmanship of the Committee but he continues as a member of the College division. Dr. Paul L. Parrish has succeeded him as Chairman of the Joint Committee.

Almost unlimited opportunity in the field of postgraduate education is offered by the fortunate association with The Long Island College of Medicine and by the wealth of clinical material in our great municipal and voluntary hospitals. We look forward to an increasing and diversified number of courses at a minimum cost, available not only to our members, but to the profession generally from adjoining counties and states. A plan is being studied to afford opportunities to physicians, willing to devote the necessary time, for resident courses of three to six months at the Kings County Hospital. This year, for the first time, the Joint Committee on Medical Education is sponsoring a course in public speaking which should be of great benefit to physicians in improving personality and self-expression.

ANOTHER step forward in medical education instituted in our Society this past year is the discussion of maternal deaths, by the Analysis Committee of the Committee on Maternal Welfare. By the action of your trustees last month, these meetings will now be conducted in this auditorium and are open to all members of our Society. The educational value of this work, the improvement in the management of maternal cases, and the lowering of the rate of maternal deaths in this county which will undoubtedly follow should stimulate the surgeons to initiate a similar analysis committee for the study of appendicitis deaths, which seem to be greatly on the

increase. All of these aids for increasing the usefulness of the profession to the community have been made available. But to be useful, the means must be used.

EXPANSION

THE entire membership of the Society recognizes the need for larger quarters if the increasing and diversified activities of the Society are to continue and to grow. In 1894, under the leadership of Dr. George MacNaughton, the campaign to raise funds for our present building was inaugurated. The building was finally dedicated in 1900. Those, too, were difficult years while our country was in the grip of a serious financial depression. This building, built by a society numbering 716 members, now serves 2500, and houses the fifth largest medical library in the United States. The collection includes many old and priceless first editions and numerous American and foreign periodicals and pamphlets gathered since the establishment of the library nearly a century ago. The constant expansion of the collection and the growth of interest in its contents, even by members of other professions, has taxed the once-ample stack space to capacity and overcrowded the reading room to such an extent that members of the Society are inconvenienced. The Library serves the community by making its services available to lawyers, clergymen, journalists, teachers, publishers, students and the general public.

The auditorium also, once ample for the needs of the Society, is no longer large enough for our present membership, nearly four times the size of the membership by whom it was constructed. Furthermore, the building lacks suitable section meeting rooms, committee rooms, sufficient office space and rest-room accommodations for our working staff. Because of lack of space in our own building, the Workmen's Compensation Office, has, since its inception, been housed in rented quarters at 1323 Bedford Avenue. Again, because of lack of space, these quarters are shared by the Milk Commission for its office and laboratory.

NOW, if the Library is to continue in its present rôle of usefulness and efficiency and provide for essential growth, we not only need additional room, but must make provision for the utilization of many additional library services. Among these services are: a bibliographic service with translators for foreign literature, a delivery service for members, a students' reading room, individual reading cubicles and facilities and equipment for the microfilming of medical literature and projectors and boxes for reading the films. Further, the work of the Director of Medical Activities, Dr. Alec N. Thomson, has become so strenuous and varied that your trustees have found it necessary to employ a full-time Assistant Director. The Library and office staffs are working to capacity and there is real need for additional help. These, and the limitation of auditorium space, are some of the pressing problems of our Society. How can they be solved?

Last fall the apartment building on our corner property was finally demolished. Money was voted by the trustees for the study and preparation of architectural plans for the enlargement of our present building. The campaign for the Frank D. Jennings Memorial Building Fund will be officially inaugurated at a dinner at the Hotel Astor in New York on February 22nd, in honor of our former president, Dr. Charles H. Goodrich, President of the Medical Society of the State of New York. The campaign, inaugurated that night, will continue until the necessary money is raised. It is estimated that the work will require between $500,000 and $750,000 for completion. I have unbounded faith that not only members of the Society but also all public spirited citizens of Brooklyn will aid in helping us carry on more efficiently and effectively the many public health activities for the saving of lives and the civic betterment of the community.

DURING the past fifteen years, the trustees through economy and business efficiency have paid approximately $79,000 toward the reduction of mortgages on this building, our Bedford Avenue, and Atlantic Avenue properties. Considering that our income is derived mainly from membership dues and that these are so low, much has been accom-

—Concluded on page 131

Cultural Medicine

The renewed interest recently awakened in the operation of Cesarean section by the researches of Dr. Robert P. Harris, of Philadelphia (see Am. Jour. of Med. Sciences, and this Journal), and the revival of laparo-elytrotomy, as well as the fact that during the past 250 years no successful Cesarean operation was reported in the cities of New York and Brooklyn[1], led me to report the following case:

CASE OF CESAREAN SECTION

WITH RECOVERY OF THE MOTHER

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MRS. V., age 30 years, the mother of two children, the youngest three years of age, was taken in labor at one o'clock on the morning of November 17th, 1874.

Dr. A. C. Hallam was called to attend her two hours later, and upon examination found what at first appeared to be the head of the child, but which proved upon more careful investigation to be a fibroid tumor which completely filled the vagina, the head of the child presenting above the tumor and reachable with great difficulty.

Recognizing the gravity of the situation, Dr. Hallam requested them to send for the physician who attended her in previous confinements. Dr. Pendleton was accordingly called, and at his suggestion an attempt was made to deliver with forceps. The tumor being pressed firmly up, the head was with great difficulty seized and the forceps locked. It was then found that upon the slightest traction the tumor advanced and occupied its former position, making an advance of the head impossible.

Upon further consultation with Drs. Delong and Wakefield, craniotomy was discussed and declared impracticable.

The Cesarian section being the only chance left for the patient, at Dr. Hallam's request I was sent for.

I saw the patient at ten o'clock A.M., she having been five hours under the influence of ether and chloroform.

Her condition was one of extreme exhaustion; in fact, she was almost in articulo mortis. No time was lost in giving her the only possible chance, slight as that seemed to be. The usual incision was made through the linea alba, and the uterus exposed. I then carefully divided the uterine wall and delivered the fetus by the breech. The placenta was then carefully separated and delivered without difficulty.

There was little or no hemorrhage, the uterus immediately contracting firmly, until the incision appeared not more than two inches in length.

No sutures were used in closing the wound in the uterus. In closing the abdomen, four deep sutures of silver wire, which included the peritoneum, were used; the outer edges were carefully drawn together by silk sutures, and the wound covered with lint saturated with carbolized oil.

The patient bore the operation well, and came out of the prolonged anesthesia without any unpleasant effects, entirely unconscious of anything that had transpired during the previous seven hours.

The progress of the case from the time of the operation until December 9th was

Reprinted from the American Journal of Obstetrics and Diseases of Women and children, 12: 312 (April) 1879, at the suggestion of the late Dr. David Myerle of Rockville Centre, N. Y.

[1] It is only fair to state that during the first 210 years of these 250, the Cesarean operation was not performed at all in these cities.

not marked by any unfavorable circumstance. She was kept moderately narcotized with morphia, took nourishment freely, and complained but little of pain, the temperature never rising above 102½°.

The catheter was used regularly at intervals of eight hours. On December 9th she had a sharp attack of phlegmasia dolens, which, however, yielded slowly to appropriate treatment, and the recovery was complete.

It is but just to say that the successful termination of the case was largely due to the untiring and skilful care of Dr. A. C. Hallam, under whose care she remained during the entire period.

SURGERY

Edwin J. Grace, M.D., F.A.C.S.

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sent the late stages of the disease, that the lung has already been greatly damaged, and that all the combined medical and surgical measures may prove helpless. Consequently, it is necessary to have a new picture of what to look for so that we may make an earlier diagnosis. Frankly, this is difficult because pulmonary tuberculosis is quite insidious in its onset and does not usually begin with acute signs or symptoms. Therefore, we must be alert for slight changes from the normal, such as: slight loss of weight and strength, poor appetite, mild persistent cough, unusual fatigue, and blood-streaked sputum. I have deliberately mentioned spitting up blood last, because we have seen many advanced cases in which they had waited for this symptom thinking it must be present for pulmonary tuberculosis and, due to this error, have let the golden opportunity for cure slip by. Hemorrhage may never be present and we have often seen cases go to a fatal termination without having shown the faintest sign of bleeding. Be keenly alert for the insidious symptoms and don't wait for the great tragic ones. X-rays of the chest are indispensable for early diagnosis and periodic health examinations are most commendable.

Pulmonary tuberculosis can be controlled for the individual and the community only through their most intimate cooperation with modern medicine. Although the problem is great, today we are equipped as never before in history with methods to conquer the White Plague, which has been the cherished goal of mankind for all ages.

SPECIAL ARTICLE

John B. D'Albora, M.D., F.A.C.P.

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plished. We must, however, face the fact that in the not too distant future we must consider paying higher dues to meet the increasing demands made upon our Society in carrying out our scientific and social program.

I DEEPLY sense the honor which you have bestowed upon me and the tremendous responsibilities which go with being your president for 1938. With the help of your Board of Trustees, the officers of our Society and the various committees, I promise to give you the best within me for the scientific and economic advancement of the Society. In return, I expect your support so that we may all pull together through a year of accomplishment.

Cancer

CHARLES WILLIAM HENNINGTON, B.S. (Rochester), M.D. (Hopkins), F.A.C.S., *German Literature Editor*, and UMBERT CIMILDORO, A.B. (Cornell), M.D. (Rome), *Italian Literature Editor*.

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John M. Swan,
M.D. (Pennsylvania), F.A.C.P.

EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

The Genetic Theory OF TRANSPLANTED NEOPLASMS

WILLIAM S. MURRAY, Sc. D.

Buffalo, N. Y.

AFTER reviewing the literature covering the work done with transplanted neoplasms, it becomes evident that the great difficulty in presenting this information to the readers of a medical journal is to bridge the gap in viewpoint between the experimental worker and the practitioner. Therefore, it seems desirable that the present summary take the form of an explanation of the salient facts of the recent work in tumor transplantation in an attempt to familiarize the practitioner with the progress which has been made in this field. In order to do this, it will be necessary to go into some detail as to the theories and techniques used, since these are usually slighted in the reports of the research workers.

Advancement in our knowledge of the transplantation of neoplastic tissues is closely related to our understanding of genetics and to the establishment of inbred strains of experimental animals. In fact, this phase of the cancer problem may be divided rather sharply into two parts, the first of which includes the work done previous to 1908 and the second, which includes work done since that time. The first of these periods antedates the realization of the value of race purification and the second follows it.

The work done during the first of these periods has been exhaustively reviewed by Woglom (1). It will not be reviewed further except to state that the early efforts in this field are characterized by the great diversity of techniques and materials used, as well as by the conflicting findings obtained.

FROM this mass of material, however, many of the characteristics of transplanted tissues were observed and the explanations and theories advanced led to the establishment of a foundation upon which the present day knowledge of the behavior and interaction of tissue and host is based.

Those who wish a complete bibliography and summary of the more recent work are referred to the report of Bittner (1935).

With the rediscovery of Mendelism biologists were presented with a new method of attack upon the problem of transplanted tumors. Whereas workers had previously been dependent upon very crude materials with which to conduct

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their researches, the growing knowledge of genetics and race purification made it possible to get uniformity in the hosts to which the various tumors were transplanted.

THE theory of race purification is based upon several facts which have been well established by geneticists:

1. Each parent contributes one half of the chromatin of the offspring.

2. This chromatin is lineally arranged during cell division.

3. The various loci or genes which cause, by themselves or in conjunction with others, the characters or characteristics in the offspring are situated in similar positions in this linear arrangement.

4. The members of a pair of allemorphs (genes in the same position on the chromosome) may be dissimilar in their effect upon the developing fetus (dominant or recessive).

Thus, if when an egg is fertilized, the gene for hair color contributed by the female is the same as that contributed by the male, the offspring is said to be homozygous for this character and can transmit this type only to its offspring. If, however, the gene for hair color contributed by the female is different from that of the male, the offspring is said to be heterozygous for coat color and there is an equal chance that it will transmit either the coat color of its father or that of its mother.

Homozygosis, therefore, lends itself to uniformity in descendants and heterosis to variability.

Inbreeding tends to eliminate heterosis in the various loci of the chromosomal pairs. It thus tends to produce physiological and morphological uniformity in individuals which are the product of the action and interaction of the whole system of genes.

The system of race purification, as applied to bisexual animals, is dependent upon the fact that the young produced by two individuals, one or both of which are heterozygous, in the same characters, cannot be more heterozygous than the heterozygous parent. They may, however, be more homozygous than either parent.

IF, for example, we take the mating of two individuals which are heterozygous in three different loci, which in turn are located in three different chromosomes, we may give them the genetic formulae AaBbCc. Before fertilization both the egg and the sperm undergo maturation divisions in which the chromatin is reduced by half, with the result that the egg and sperm which finally conjugate may have a formula which may be any one of the 8 possible combinations of these letters: ABC, ABc, AbC, Abc, aBC, aBc, abC, abc.

By multiplying these (gametes) by themselves, we obtain the various types of individuals (zygotes) which this heterozygous pair may produce:

	ABC	ABc	AbC	Abc	aBC	aBc	abC	abc
ABC	AABBCC	AABBCc	AABbCC	AABbCc	AaBBCC	AaBBCc	AaBbCC	AaBbCc
ABc	AABBCc	AABBcc	AABbCc	AABbcc	AaBBCc	AaBBcc	AaBbCc	AaBbcc
AbC	AABbCC	AABbCc	AAbbCC	AAbbCc	AaBbCC	AaBbCc	AabbCC	AabbCc
Abc	AABbCc	AABbcc	AAbbCc	AAbbcc	AaBbCc	AaBbcc	AabbCc	Aabbcc
aBC	AaBBCC	AaBBCc	AaBbCC	AaBbCc	aaBBCC	aaBBCc	aaBbCC	aaBbCc
aBc	AaBBCc	AaBBcc	AaBbCc	AaBbcc	aaBBCc	aaBBcc	aaBbCc	aaBbcc
abc	AaBbCc	AaBbcc	AabbCc	Aabbcc	aaBbCc	aaBbcc	aabbCc	aabbcc

Combining those of the same formula it is seen that these heterozygous pairs may produce 27 different types:

1 AABBCC	1 aaBBCC	2 AaBBCC
2 AABBCc	2 aaBBCc	4 AaBBCc
1 AABBcc	1 aaBBcc	2 AaBBcc
2 AABbCC	2 aaBbCC	4 AaBbCC
4 AABbCc	4 aaBbCc	8 AaBbCc
2 AABbcc	2 aaBbcc	4 AaBbcc
1 AAbbCC	1 aabbCC	2 AabbCC
2 AAbbCc	2 aabbCc	4 AabbCc
1 AAbbcc	1 aabbcc	2 Aabbcc

SINCE there is an equal chance of each of the three dominants (large letter) joining with a dominant or with a recessive (small letter), it will be seen that 96 of the 192 loci in the 64 individuals have become homozygous for either the dominant or the recessive character. Taken as a group this generation is 50 per cent inbred.

Carrying on this system of mating for 20 or more generations, always breeding brother to sister, the stock resolves itself into a number of strains which, in the case of three factors, may take any one of the eight types possible:
AABBCC, AABBcc, AAbbCC, AAbbcc, aaBBCC, aaBBcc, aabbCC, aabbcc.

THE degree of heterosis decreases in each of these strains as follows:

Generation	1	2	3	4	5	6	10	15	00
	50.0	37.5	31.2	25.0	20.3	16.4	05.7	02.0	00.0

It is apparent that in practical breeding where the number of lines of descent are limited, it is very probable that in a stock containing *n* hidden characters, the possibility of any two strains having the same gene complex is remote. Each of the strains, however, will be homozygous for its own combination of genes.

It is thus seen how stocks having various physiological characteristics may be developed from a single pair; why some may have a high percentage of spontaneous tumors and others little or no tumor incidence.

IN practice, in establishing an inbred strain, after twenty or more generations have been obtained, it is the established procedure to narrow the stock to a single pair, thus eliminating all but one of the possible gene complexes. When the young from this pair are expanded, a stock or race of animals is obtained which are uniform in their inherited characteristics, differing only in the amount caused by mutations at the various loci.

The stocks used in the recent studies on transplanted tumors, albino, dilute brown, "N", "X", etc., were developed in the manner described above.

Previous to 1908, workers had great difficulty in transplanting neoplasms because of the heterogeneous nature of the hosts which were then available. Leo Loeb was the first to realize the advantage of race. He found that it was possible to get 100 per cent takes of a tumor which arose spontaneously in the Japanese waltzing mouse (a strain which most nearly approached our present day conception of an inbred stock) when this tumor was transplanted to mice of the same race.

Shortly afterward Tyzzer (1909), working with Japanese waltzers and hybrids obtained by crossing this strain with stock mice which were resistant to this tumor, found that not only did the tumors transplant successfully in the waltzers but that they also grew in 100 per cent of the animals of the first filial generation. Tyzzer also transplanted this tumor into a few F_2 generation hybrids but without success. From his findings he advanced the theory that heredity was involved in whether or not the grafts were successful.

LATER, Tyzzer in collaboration with Little (Little and Tyzzer 1916), repeated this experiment on a much larger scale, raising a large F_2 generation. In this generation, they found that a small proportion of the mice grew the tumor progressively. From these findings, they reasoned that the faculty to grow transplants was transmitted as a mendelian dominant and that this ability was dependent upon a number of genes (12 to 14 in this case) being present at the same time.

Their theory was based upon the law of independent assortment and segregation as applied to the loci in the chromosomes. The three factor cross used above may be used to illustrate this. In this case, the AaBbCc individuals compare to the F_1 generation of Little and Tyzzer. If the success of the transplant is dependent upon the simultaneous presence of three dominant genes: A, B, and C, all of the F_1 individuals, since they are heterozygous for these three characters, would grow the tumor progressively. When these F_1 animals are bred at random among themselves to produce the F_2 generation, it is found that of the 27 types produced (Table 2) only 8 have the necessary combination of genes to grow the tumor. That is, only

eight types carry the A, B, and C in at least the heterozygous condition. These types are as follows: 2 AaBBCC, 4 AaBbCc, 4 AaBbCC, 8 AaBbCc, 1 AABBCC, 2 AABBCc, 2 AABbCC, and 4 AABbCc. The coefficients here represent the number of times (in the long run) which each of these types will occur in each 64 individuals of an F_2 generation, in which 3 factors are involved. The sum of these or 27 represents the number of takes which may be expected in each 64 F_2 individuals. As the number of factors involved changes, this ratio will also change as shown in the table following:

No. of Factors	Positive	Negative	% Negative
1	3	1	25.0
2	9	7	43.75
3	27	37	57.81
4	81	175	68.36
5	243	781	76.27
6	729	3367	82.20
7	2187	14197	86.65

ALL the more recent researches of Strong, Bittner, Cloudman and others, who have studied a number of different tumors which arose in various inbred strains lend themselves to this explanation.

As a check upon the number of factors involved, workers in this field have evolved a system of back-crosses. When F_1 individuals are back-crossed to the strain in which the tumor arose, all of the young grow the tumor progressively. When, however, the F_1 animals are back-crossed to the resistant strain, only that proportion of the young which is commensurate with the number of takes in F_2 develops the tumors. Thus, if the tumor is dependent upon one factor, one half of the animals, in the back-cross to the resistant strain, will grow it; if 2 factors are involved one fourth; if three factors one eighth, and so on. This is dependent upon the fact (in the case of 3 factors) that of the 8 possible gametes produced by the F_1 hybrids, when mated to the triple recessive which is the only type of gamete possible for the resistant parent, only one* of the 8 can produce young which carry the heterozygous dominant in all three characters.

Variations in tumors arising within the same stock:

WITH the finding that tumors arising in an individual of an inbred stock are transplantable in 100 per cent of the members of the same strain, the question arose: are all tumors arising within the same strain dependent upon the same number of characters? It has been established that they are not. Little and Strong inoculated two carcinomata, arising in the dilute brown strain, simultaneously on opposite sides of the same hosts. Histologically these tumors were identical. When inoculated, however, one gave a two factor ratia, the other required three factors.

Variations in tumors arising within the same individual:

TWO tumors arising within the same animal have been demonstrated to give different ratios when inoculated. Bittner showed that two tumors from the same individual gave ratios for five and seven factors and also pointed out that the five factors necessary for the growth of the first were identical with five of the seven necessary for the second. Cloudman found that two of three tumors from a single animal had one growth factor in common.

Behavior of tumors arising spontaneously in hybrids:

FOR an understanding of the behavior of tumors arising in hybrids it is necessary to keep in mind that the gene complexes in the parent stocks which produced the hybrids may vary with each other but not within themselves. Strain one, for instance, might be aabbCC and strain two might be AABBcc. When these two strains are crossed, the resulting hybrids are AaBbCc. It might well be expected of tumors arising in such animals, that they should react differently than do tumors arising in either of the parent stocks. Such is apparently the case, as has been demonstrated by Bittner.

To simplify his experiment let us take the case of two tumors arising simultaneously but independently in the

	ABC*	ABc	AbC	Abc	aBC	aBc	abC	abc
abc	AaBbCc	AaBbcc	AabbCc	Aabbcc	aaBBCC	aaBbcc	aabbCc	aabbcc

same hybrid individual which upon transplantation into the F_2 generation, derived from the *inter se* mating of this hybrid generation, shows that one of these tumors is dependent upon the presence of three dominant factors and that the other requires two factors.

By back-crossing to the two parent stocks, Bittner was able to show that two of the factors necessary for the three factor tumor came from one of the parent stocks and that the third factor came from the other. This may be illustrated by the following crosses:

	ABC	ABc	AbC	Abc	aBC	aBc	abC	abc
aBC	AaBBCC*	AaBBCc*	AaBbCC*	AaBbCc*	aaBBCC	aaBBCc	aaBbCC	aaBbCc
Abc	AABbCc*	AABbcc	AAbbCc	AAbbcc	AaBbCc*	AaBbcc	AabbCc	Aabbcc

That is, when the back-cross was made to the stock carrying two of the necessary genes, one half of the resultant animals were susceptible to grafts. When the cross was made to the stock carrying one factor only one fourth of the animals grew the tumor progressively.

In the case of the two factor tumor, all of the mice which grew the three factor tumor also supported the two factor transplants. In the second back-cross, however, twice as many mice grew the tumor as grew the three factor transplant. This may be explained on the assumption that this tumor was dependent upon two factors, one of which came from each of the parent stocks.

Explanation of regressing tumors:

THE explanation, advanced by the group which attributes the success of tumor transplants to the gene complex of the host, is that in some cases the hosts are of such a genetic formula that they have the necessary chromosomal complex to grow the transplant with the exception of a single locus. They advance the hypothesis that such animals are capable of initiating the growth but are not capable of sustaining it. The tumors therefore regress.

Tumors which change their ratio of takes:

IT has been the experience of all these workers that after a tumor has been transplanted for a number of transplant generations, the ratio of takes obtained in the F_2 and back-cross generations may change. These changes all indicate that the tumor has become less specific. That is, it will grow in a greater number of animals and give a factor ratio indicating that fewer genes are necessary for its growth. Genetisists have explained this upon the assumption that the tumor itself has undergone a process similar to somatic mutation. This change may progress, in some cases, to the extent that the tumor may need only one factor or even become non-specific and grow in all mice—evidence that some of the factors necessary for the growth of the transplants are linked with somatic characters.

It may well be expected, if this is a genetic problem, that some of the factors necessary for the progressive growth to these transplants will be linked, that is, carried in the same chromosome, with some morphological character which is recognizable. Several instances of this having been the case have been reported. Strong found one of his tumors to be linked with the factor for dilution and another which was linked with sex. Bittner has reported several tumors which were lined with dilution.

These researches demonstrate that successful growths of transplanted tissues are dependent upon the genetic complexes of the hosts as well as upon the complexes of the tumors themselves. It is not claimed that they are comparable with the tumors arising spontaneously but rather that their behavior constitutes a delicate test of physiological reaction, which may be utilized in our further understanding of neoplasms.

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PNEUMONIA IN INFANTS

Pneumonia in newborn or stillborn infants is a definite pathologic process which cannot be diagnosed with certainty until the autopsy, because it so resembles hemorrhage and atelectasis. It is the result of aspiration of toxic bile salts and irritative cornified epithelial cells which form the solid constituents of amniotic fluid which produces a non-bacterial irritation. The leukocytic exudation fills the lungs and prevents proper aeration and the extent of the process determines its severity. It is usually found in infants who have had long and complicated deliveries and who are either dead or in poor condition at the time of birth, and who are usually the victims of other pathological lesions sufficient to have caused death in themselves. Only a few died with no other pathological lesions and even those had some birth complications. Prevention of this condition is possible only by improving the prenatal conditions of infants and by improving, as much as is possible, the conditions under which they arrive in this world.

—MARGARET WARWICK, M. D.
in N. Y. State J. of Med., Dec. 15, 1937.

Section of a mural panel entitled "Louis Pasteur", which is one of a series of such panels portraying in graphic form the story of "Men of Medicine".

These panels were executed by Arthur Faber under the direction of the WPA Federal Art Project for the Willard Parker Hospital, Manhattan.

Associated Physicians
OF LONG ISLAND

Associated Physicians of Long Island Hold Clinical Day at St. Mary's Hospital in Brooklyn, Saturday, Jan. 29, 1938.

THE clinical day at St. Mary's Hospital, Brooklyn, Jan. 29, 1938 was the very best program which has ever been presented to the Associated Physicians in their 40 years of existence. The clinical reports and demonstrations were selected from a large amount of material submitted and the competition among different departments resulted in a caliber of work which will stand as a high record. To Dr. Francis W. Currin goes the deep gratitude of the association for the excellence of the program.

The association was the guest of the hospital board in the dining room at a luncheon the quality of which successfully competed with the anniversary dinner.

The program was as follows:

SEMINAR—OBSTETRICS AND GYNECOLOGY—9-12 A.M.

Round Table of Case Reports

Dr. E. A. Keyes, Chairman

Tuberculous Ovary; Operation —Dr. M. L. Abbene

Pregnancy; Post Partum Thyroid Crisis —Dr. D. Butera

2 Cases of Abdominal Hemorrhage, Tubal not Ectopic —Dr. J. Cascio

Double Pregnancy, Double Uterus, Abortion 4th Month, one Uterus; Full Term Cesarean, Living Baby 2nd Uterus —Dr. F. Mitchell

3 Cases of Torsion of Tube, Simulating Appendicitis —Dr. J. Butler

8 Cesarean Sections, one Ectopic Pregnancy —Dr. M. Murphy

Solid Tumor of the Ovary, Intestinal Obstruction in Puerperium; Operation —Dr. T. Fitzgerald

Ante-Partum Diagnosis with X-Ray of Triple Pregnancy —Dr. J. Mastrota

Hydatiform Mole, Cesarean Section at Term, Living Baby —Dr. Charles H. Loughran

Electro-Coagulation Cervix —Dr. H. Joyce

Demonstrations, Display of Charts and Graphs—11-12 A.M.

Forceps Application on Manikin —Dr. H. Goubeaud

Perineal Repair —Dr. H. Joyce

Resuscitation of Newborn (Cadaver and Moving Pictures) —Dr. R. Wilson

10-12 A.M.

Department of Surgery

Operative and Surgical Dry Clinic

Selected Fracture Problems —Drs. Shumway, Hayes, Nicol

Anesthesia Types and Advantages—Economical and Physical Viewpoint —Drs. Paul Ansbro and Gilbert

Tendon Surgery —Dr. Daniel Welch

Carcinoma of the Gall Bladder —Dr. Thomas M. Brennan

Mecholyl Iontophoresis in Thrombophlebitis —Dr. Hugh Murphy

Genito-Urinary Department

Demonstrations in New Genito-Urinary Unit

Transurethral Prostatic Resection and Other Genito-Urinary Procedures (Motion Pictures) —Dr. Frank C. Hamm

Pediatric Department

Selected Pediatric Cases of Special Interest —Dr. Francis B. Hart

Vaccine Treatment in Pneumonia

Deep X-Ray Therapy in Sinusitis in Children —Dr. Anthony F. X. Frieri

Department of Roentgenology

(Dr. Francis W. Currin)

12-1 P.M. Exhibits

Cholangiography in Biliary Tract Disease (Demonstration) —Dr. Paul Rata

Diagnostic Value of Cystogram in Placenta Previa —Dr. Stanley Hall

Pathological Department

(Dr. Wm. Moitrier, Jr.)

Ovarian Tumors in Their Relationship to Sex Hormones (Lantern Slides)

Vascular Clinic in Operation in A.M.

Obliterative Arterial Disease of the Extremities will be Demonstrated and Discussed —Dr. Hugh Murphy and V. Tesoriero

2 P.M.—SCIENTIFIC SESSION

(Nurses Home)

1. Acute Nephritis in the Newborn —Dr. Kenneth Jennings
   Discussion by Dr. Miner C. Hill, Oyster Bay
2. Recurrent Intussusception (Management) —Dr. Peter J. Dulligan
   Discussion by Dr. John M. Scannell, Jamaica
3. Three Unusual Genito-Urinary Cases in Children —Dr. Andrew J. McGowan
   Discussion by Dr. Ray M. Bowles, Hempstead
4. Hemorrhage in Peptic Ulcer; Experience During Fifteen Years at St. Mary's Hospital —Drs. J. B. D'Albora and Wm. Lancellotti
   Discussion by Dr. Carl Boettiger, Flushing
5. Dehydration Treatment in Pre-Eclamptic and Eclamptic Cases —Dr. Charles H. Loughran

Discussion by Dr. George B. Granger, Rockville Centre

6. Brucellosis; Case Report —Dr. John G. Glynn
Discussion by Dr. Warren I. Titus, Glen Cove

Fortieth Anniversary of Associated Physicians of Long Island Celebrated with Dinner in Granada Hotel, Brooklyn, January 29, 1938.

THE Associated Physicians of Long Island, who are completing forty years of continuous activity, celebrated the event with a dinner attended by about 100 members in the Granada Hotel, Saturday, Jan. 29, 1938. The big features of the evening were the presence of many charter members and past presidents, and the address by Irving H. Berg, D.D., Dean of New York University College of Arts and Pure Science.

The cocktail hour was a jovial affair, enlivened by the presence of men who meet together but three times a year. Dinner was more elaborate than usual, with a souvenir printed program and an orchestra playing dinner music. The following charter members were the guests of the "House of Lords", who are the past presidents: William Browning, William E. Butler, Henry P. DeForest, William B. Gibson, P. Chalmers Jameson, Charles D. Napier, William H. Ross, William Simmons, and Joshua M. Van Cott.

The main address of the evening was delivered by the Dean of New York University College of Arts and Pure Science, Irving H. Berg, D.D. Doctor Berg had wide experiences among men as a chaplain in the Punitive Expedition into Mexico, as the chaplain of New York University, and now as Dean of a large metropolitan university which trains many men in premedical work. His remarks both humorous and serious were directed to the doctor as a human being. He felt that all doctors need relaxation, but it should be along a familiar line and not in business, real estate transactions and playing the market. He advised them to devote more time to an association like the Associated Physicians and make it their hobby.

The dinner closed with the induction of the new president, Dr. Otho C. Hudson, the widely known orthopedic surgeon of Hempstead, N. Y.

Fortieth Annual and 120th Regular Meeting of the Associated Physicians of Long Island.

THE 40th annual and 120th regular meeting of the Associated Physicians of Long Island was held immediately following the clinical day in St. Mary's Hospital, Brooklyn, Jan. 29, 1938. The following were duly elected to active membership: Dr. Hugh L. Murphy, Dr. John A. McCabe, Dr. Martin H. Lutz, Dr. Henry L. Wagner, Dr. Peter J. Dulligan, Dr. Henry D. Fearon, and Dr. Charles A. Weymuller, all of Brooklyn; Dr. George M. Lott, Jamaica; Dr. Paul D. Steele, Hempstead; Dr. Raymond J. Millemann, Hollis; Dr. Gerald E. Pauley, Queens Village; Dr. Dennis B. Sullivan, Queens Village; and Dr. Walter Weller, Bellerose.

When a member has served actively for many years in the association, it has been customary to elect him to an honorary position. Hence, Dr. Victor Robertson and Dr. John Nugent were elected to emeritus membership.

THE following officers were unanimously elected to serve during 1938: President, Dr. Otho C. Hudson of Hempstead; President-elect, Dr. E. Jefferson Browder of Brooklyn; First Vice President, Dr. John B. Healy of Babylon; Second Vice President, Dr. Harold B. Merwarth, of Brooklyn; Third Vice President, Dr. Charles C. Murphy of Amityville; Treasurer, Dr. Edwin A. Griffin; Secretary, Dr. David Edward Overton of Hempstead.

A report of the auditing committee found the books in order. A report of the treasurer which need not be printed in detail found the association starting the year of 1938 with an adequate balance and, when money is received for 1938 dues at the original figure of $5.00 per year, it is certain that the treasury will be able to cover all the customary expenditures with a margin of slight profit. This profit will be used to edit a directory of the membership and perhaps to pay the speaker at the regular meetings or secure paid entertainment.

Dr. Arthur D. Jaques, chairman of the public health committee, reported upon the work being undertaken on the Island in regard to poliomyelitis, cancer and syphilis.

Contemporary Progress

+ Neurology +

Minerals in Normal and Pathologic Brain Tissue

L. ALEXANDER and A. MYERSON *(Archives of Neurology and Psychiatry, 39:131, January, 1938)* report a study of minerals in normal and pathologic brain tissue, using two methods—micro-incineration and spectroscopy. Micro-incineration shows normal gray matter to be relatively rich in minerals while the normal white matter is relatively poor in mineral ash. Such lesions as hemorrhages, inflammation and tumor of the brain show hypermineralization, while areas of necrosis and softening and the lesions of multiple sclerosis show demineralization; but this demineralization affects only the parenchyma, not the proliferating glial cells and scavenger cells. Spectroscopic examination showed that the white matter (fresh tissue) contains about twice as much phosphorus as the gray, but the gray matter is richer in sodium, calcium and potassium; the dried substance of the gray matter is richer in iron. The gray matter of the cortex and the white matter of the brain in the new-born contain more potassium, sodium and magnesium than the corresponding tissues in the normal adult, but less iron. In early foci of softening, there is loss of potassium and phosphorus and an increase of iron in the gray matter as compared with normal; there is loss in potassium in the white matter, but increase in iron, magnesium and sodium; the phosphorus content of the white matter in these lesions "remains remarkably constant." In older vascular lesions in which there is considerable gliosis, the potassium was increased as compared to normal in both white and gray matter, but phosphorus was less than normal in the gray matter. This is due to the fact that glia cells are "hypermineralized." The iron in these lesions is "probably hematogenous" and indicates vascular dilatation, stasis or thrombosis in the areas involved. In multiple sclerosis, there is also more iron than normal in the plaques, but except for a decrease in calcium, the other mineral elements showed little change in the plaques. In lead encephalitis, more lead was deposited in the gray than in the white matter. In edematous brain tissue, sodium and calcium are increased, relatively more in the gray than in the white matter.

COMMENT

This article provides us with a rather novel and interesting approach to the study of normal and pathologic reactions in tissue. The authors obviously do not draw any conclusions from their work. This type of microchemistry provides a new lead in the investigation of hitherto hopeless problems. Careful work of this type may possibly suggest a therapeutic approach.

The syndrome of so-called "multiple sclerosis" at the present time is in this hopeless category. The most striking result, so far in the material presented rather briefly in this paper is concerned, seems to be in this disease.

We shall await further reports of these investigators with a great deal of eagerness.

—H.R.M.

Choline Compounds in Neurologic Disorders

M. J. COOPER (*American Journal of Medical Sciences, 195:83, January, 1938*) reports the use of the choline compounds acetyl beta methylcholine chloride and ethyl beta methylcholine chloride in Ménière's syndrome and other neurologic disorders. The usual effective dose of acetyl beta methylcholine chloride was found to be 0.08 gm. three times a day; and that of ethyl beta methylcholine

chloride was 0.006 to 0.008 gm. three times a day. In 5 of 6 cases of Ménière's disease the use of one or the other of these choline compounds relieved the majority of the acute exacerbations. And if these drugs were taken in "intervals of quiescence," the acute exacerbations were less frequent and less severe. In one case of major trigeminal neuralgia the symptoms were entirely relieved with the use of ethyl beta methylcholine chloride; for the first three weeks a dose of 0.0166 gm. was given three times a day, after which the dosage was reduced to 0.005 to 0.008 gm. three times a day. The sharp shooting pains were relieved after the eleventh day of treatment; the soreness of the gums was relieved in about three months; but the treatment was continued for five months. Three months after stopping treatment, there was a slight recurrence, but the pain was so mild that no treatment was required. This patient had a motor tic affecting the corner of the mouth, which also completely disappeared under choline treatment. In one case of intermittent claudication, treatment with the choline preparations resulted in "a considerable degree of relief." The author also notes a number of conditions in which the choline derivatives were ineffective or had an unfavorable action. Spontaneous pain associated with thalamic lesions was not relieved by choline treatment. The choline preparations were also ineffective in migraine and epilepsy. Choline appeared to have an unfavorable action on the rigidity of basal ganglia lesions and the spasticity of upper motor neuron lesions.

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COMMENT

This article is presented for abstract purely because of its therapeutic suggestions.

The therapeutic approach to various types of neuralgias and paroxysmal pains in the head, in the past few years, has given us new hope in the treatment of these cases. The therapy for the attacks of paroxysmal vertigo of these patients is unusually dramatic.

Its use is recommended in similar diseases.

—H.R.M.

Treatment of Acute Poliomyelitis by Intravenous Injection of Hypotonic Salt Solution

G. M. RETAN *(Journal of Pediatrics, 11:647, November, 1937)* states that the "rationale" of the treatment of inflammatory disease of the central nervous system by intravenous injections of a hypotonic solution depends upon the fact that such injections lower the osmotic pressure of the blood and this results in "a rapid interchange of fluid between the pericellular tissue fluid and the fluid within the cell" in the central nervous system; this fluid interchange is "more selective" in inflammatory tissues, because of the increased permeability of the capillary wall in such areas. In treating acute poliomyelitis, the author employs a 0.375 per cent. solution of sodium chloride; the injection is given for five hours, the rate of injection being 10 c.c. per pound of body weight each hour for three hours and slightly less for the subsequent two hours. The interval between the first two treatments must not exceed four hours; between the second and third treatments, six hours. The interval be-

tween subsequent treatments may be increased according to the severity of the case. Twelve hours after the completion of the third treatment a spinal puncture is made; if the cell count is above 20 and if polymorphonuclear cells are present further treatment is given at once. Inflammation of the lungs or bronchi, acute nephritis, and cardiac weakness are contraindications to the treatment. The author reports 57 cases of acute poliomyelitis treated by this method without a death. This included 10 cases of respiratory paralysis, in which improvement in respiratory function was noted during the treatment; all of these patients recovered, although the mortality in cases of this type is usually high. Six cases of paralysis of deglutition also recovered promptly. The author is of the opinion that the treatment cannot always prevent the development of ascending (Landry's) paralysis, but the respiratory paralysis which is the cause of death in such cases "does yield to the treatment." All of the preparalytic cases treated showed symptoms of such severity that "paralysis might be a reasonable expectancy;" but paralysis developed in only 3 cases. Weakness of the muscles without actual paralysis promptly improved under this treatment. In cases where actual paralysis has developed, there is no improvement, but if the case is in the "active" stage, treatment is indicated as it may prevent further loss of function.

COMMENT

The highly satisfactory results from this type of therapy cannot be disputed. Any form of treatment in infantile paralysis which is capable of curing the bulbar type deserves respectful consideration.

The reviewer has not utilized this method of treatment in the handling of "polio" cases. From a purely therapeutic basis it presents fascinating possibilities.

The practical application of the method of treatment described has always seemed rather awesome. —*H.R.M.*

Blood Sugar Curve Following Encephalography

M. SCOTT *(Archives of Neurology and Psychiatry, 238:985, November, 1937)* reports a study of the blood sugar curve following encephalography in 75 patients. The average value at the peak of the curve was 152 mg. per 100 c.c. blood; the rise in the blood sugar values ranged from 100 mg. to 234 mg. The maximum blood sugar values were noted in the younger patients—ten to thirty years of age. In miscellaneous neurologic conditions, the average rise in the blood sugar was 150 mg.; in cases of tumor of the brain the average rise was 137 mg.; and in convulsive disorders 170 mg. While the blood sugar curves after encephalography are not of differential diagnostic value in most conditions, the very low values in brain tumor and the high values in most cases of epilepsy "merit consideration." The author notes a marked similarity between the usual blood sugar curve in the dextrose tolerance test and the curve after encephalography; this, he says, "suggests a common central mechanism for both." Reese (1935) has reported that diabetic coma and death followed encephalography in a patient with "latent hypoinsulism." Because of the effect of encephalography on the blood sugar curve, and the possible danger of an increase in blood sugar in certain cases, the author suggests that "a preliminary estimation of blood sugar be made in every case in which encephalography is contemplated."

COMMENT

The average clinician, in approaching the problem of the advisability of using air studies, has concerned himself first with the age of the patient, and second with the possibility of meeting an intracranial condition.

I have felt that in the elderly the administration of air by the lumbar route carries with it certain hazards due mainly to the sclerosis of the cerebral vessels. In one specific instance the patient undoubtedly experienced an acute vascular accident as a direct result of the withdrawal of cerebrospinal fluid, the accident occuring during the test.

The use of spinal air is also indicated in subtentorial lesions and we feel should be used with considerable caution in cases with papilledema. In fact, my policy is never to resort to the use of air in conditions with "choked" discs, except where the possibility of an inflammatory lesion seems the most likely one. The value of this particular series imparts emphasis to a problem which the reviewer has not given any consideration, namely, the dangers of its use in a case of diabetes. The suggestion that the blood sugar is high in so-called "epilepsy" and low

in cases of "brain tumor" is rather intriguing.
—H.R.M.

Epidemic Encephalitis; a Follow-up Study of 266 Cases

W. L. HOLT, Jr., *(Archives of Neurology and Psychiatry, 38:1135, December, 1937)* reports a follow-up study of 266 cases of epidemic encephalitis admitted to the Boston Psychopathic Hospital in 1917 to 1926, "the epidemic years." Of these, 83 patients were admitted in the acute stage of the disease; of those admitted in the chronic stage, 71 showed behavior disorders, 100 the Parkinson syndrome, and 12 other sequelae. Of the entire series, 240 cases were traced and their status determined; 17 of these were living and apparently well. The highest percentage of recoveries (11.5 per cent.) occurred in patients admitted to the Hospital in the acute stage. Of the 100 cases with the Parkinson syndrome only one showed complete recovery; and in this case tremor and rigidity appeared during the acute stage and had gradually grown less. Of the patients admitted with behavior disorders, 5 recovered. There were 94 deaths in the series, but only 49 of these were attributed to the encephalitis; in half of this group death occurred within the first year after the onset of symptoms. Of the 129 patients who still show sequelae, only 22 are self-supporting. From this study of patients with epidemic encephalitis, the author concludes that recovery rarely occurs when sequelae have developed after the acute attack. "Children with behavior disorders constitute the only group with sequelae of epidemic encephalitis in whom improvement may reasonably be expected."

COMMENT

I have always felt that reviews of the above type are very valuable.

Such a review gives us a very accurate insight as to prognosis in disease. The malignity of this scourge of the twentieth century is so well imprinted on medical consciences that a repetition of its dire results hardly seems necessary.

The social consequences of this destructive disease are overwhelming.

At the present time there is no known remedy which might provide an arrest to this disease.

Temporary improvement only, and then often of a discouraging brevity, occurs after the use of the common therapeutic agents.
—H.R.M.

+ Physical Therapy +

Roentgen Therapy of Active Rheumatic Heart Disease

R. L. LEVY and ROSS GOLDEN *(American Journal of Medical Sciences, 194:597, November, 1937)* report the results of treatment of active rheumatic heart disease with the Roentgen rays in 48 cases. Some of these patients have been under observation for eleven years; all but 7 patients have been followed-up for more than a year. The authors' first report on the use of this method was published in 1927. The 48 patients followed-up were given an average of nine treatments, the number of treatments varying from four to twenty-five; 12 patients had ten or more treatments. There have been 12 deaths in the follow-up period occurring from six weeks to seven and a half years after treatment; in 7 of these cases death was due to congestive heart failure, and in 3 to *Streptococcus viridans* endocarditis. Of the 36 patients living, 25 were definitely improved by the treatment; in 8 the effects were doubtful; 3 were unimproved. Of 8 patients who had cardiac pain, this symptom was relieved in 6; both the patients that were not relieved had aortic insufficiency. The patients with low grade activity and without signs of congestive heart failure showed the greatest improvement; in such cases evidence of subsidence of the carditis was noted soon after treatment was begun.

COMMENT

Continued investigation into the action of x-rays inhibiting the growth of bacteria seems to bear out some of the ideas published over twenty years ago. In those days, however, control of clinical cases was not as exact as today.

The bactericidal action of x-rays is not new, but it is hoped that the workers will not become over-enthusiastic and attempt widespread use of this agent, such as was the case when ultraviolet energy was first popularized for this effect.

Low grade infections should react to any agent causing a weak bactericidal action.
—N.E.T.

Roentgen and Ultraviolet Radiation in Dermatology

D. E. H. CLEVELAND *(Canadian Medical Association Journal, 27:558, December, 1937)* discusses the use of ultraviolet and Roentgen rays in dermatology on the basis of his own experience. The ultraviolet rays, he believes, are not directly bactericidal to organisms in the skin, but they do increase the "activity and efficiency of the local defensive mechanism." This and the increased bactericidal power of the blood in the area explain the excellent results of ultraviolet therapy in erysipelas. Similar good results are not obtained in furunculosis and superficial pyodermias, although in these conditions some benefit may result from generalized radiation. Acne may be temporarily relieved by ultraviolet radiation but usually recurs when treatment is discontinued. Definite indications for the ultraviolet in the treatment of skin lesions are few. The Finsen-Reyn carbon arc lamp may be used for the local treatment of lupus lesions, but as a rule in tuberculosis of the skin general body radiation gives the best results. Some types of psoriasis are definitely benefited by ultraviolet radiation; for the chronic indolent patches Goeckerman's coal tar sensitization technique should be used. Simple radiation often benefits the small discoid eruption of psoriasis; and ultraviolet light baths give good results in the profuse nummular or guttate eruption occurring in patients with chronic psoriasis after an acute infection. Seborrheic dermatitis of the trunk, pityriasis rubra pilaris and the acute itching form of pityriasis rubra often respond well to ultraviolet radiation. Overdosage should be carefully avoided. The x-rays have a definite keratolytic effect, "negligible in the ultraviolet," which is a valuable property of these rays in dermatology. For this effect the x-rays are employed in the treatment of the chronic dry stage of certain cases of eczema and dermatitis from other causes. In the acute stage of these conditions "fractional or sub-fractional" doses of x-rays are often of value for their sedative effect on itching and inflammation. The x-rays should rarely be used in psoriasis, according to the author's experience, but in the chronic thickened pruritic lesions of lichen simplex chronicus, x-ray irradiation is the treatment of choice. In hyperhydrosis and seborrheic dermatitis x-rays have a favorable action by depressing the functions of "the glands concerned." The author does not consider x-radiation "an all-sufficient remedy" in acne; he has found its results disappointing in patients under eighteen years of age. The x-rays are of value in superficial actively growing plantar warts and in peri-ungual and the so-called "venereal" warts, but not in other types of warts. They are also of value in ringworm of the scalp and beard. On the whole, the author concludes that the x-ray treatment is "a valuable adjunct" in many skin diseases; "indispensable" in a few; "but in very few is it all-sufficient."

COMMENT

Emphasis must be laid on using sufficiently strong doses of ultraviolet light in the treatment of erysipelas. With set factors, such as time and distance, known, so that the erythema dose can be a unit, twenty to twenty-five times that amount should be given erysipelas cases.

Roentgenologists in general do not understand the biological action of ultraviolet light and seem afraid of its use when Roentgen rays are being given. This is an unfounded fear, as ultraviolet wave lengths are never destructive. The combined use of ultraviolet and Roentgen rays in chronic indurated acne has been the method of choice amongst physical therapists for years. ***—N.E.T.***

Effect of Ultraviolet and Visible Rays on Carbohydrate Metabolism

L. PINCUSSEN *(Archives of Physical Therapy, 18:750, December, 1937)* reports experiments on animals in which he found that irradiation with the ultraviolet and visible rays caused a lowering of the blood sugar; there is also an increase in the glycogen content of the liver and muscles, and a drop in the lactic acid, so that the quotient carbohydrate : lactic acid increases. It was found that the optimum effect with the highest carbohydrate : lactic acid quotient was obtained by radiation with 1 part ultraviolet and 9 parts incandescent light. This is very similar to sunlight. In human diabetes the author has found that

the blood sugar may be reduced by irradiation with a mercury quartz lamp. In these patients the urinary sugar was also decreased, sometimes disappearing completely, and the amount of acetone bodies was reduced, so that it was evident there was a definite modification of the carbohydrate metabolism. It was noted that in cases in which the output of urine was extraordinarily large, the irradiation had little or no effect. The author considers that in these cases "pituitary action plays a rôle."

COMMENT

The effect of ultraviolet baths on diabetics has long been observed.

At the first International Congress of Radiology and Electrology, held in London in 1925, reports from Geissen showed that strong erythema doses of ultraviolet light decreased sugar tolerance, whereas sub-erythema doses increased sugar tolerance. Clinical experience from that time has consistently proven that the most effectual treatments with ultraviolet light are brought about when sub-erythema doses are used.

—N.E.T.

The Elliott Treatment in Prostatic Disorders

L. W. RIBA and C. VANCE *(Archives of Physical Therapy, 19:29, January, 1938)* note that local heat in the treatment of prostatic disease is not new, but they have found the Elliott method to have definite advantages for the application of local heat to the prostate gland. Its use in prostatic disease was suggested by the effects obtained in female pelvic infections. For application of the Elliott method to prostatic infections, the bag is introduced into the rectum with the patient lying on his back with the thighs flexed or in the knee-chest position. The rectum is greased with K-Y jelly, the bag is "rolled up from each side so as to form a semi-rigid tubular mass" and introduced carefully and gently. The rubber tubes from the machine are then attached and the pressure turned on; the return flow tube is temporarily blocked until the bag is adequately distended. During the first treatment the temperature may be raised to 120° F., in subsequent treatments to between 126° and 130° F., depending upon the patient's tolerance. The first treatment should last at least thirty minutes; later treatments forty-five to sixty minutes. Pain should not be produced; in giving over 2,100 treatments, the authors have observed no serious complications, and they consider the Elliott method "an effective, practical way of applying heat to the prostate." They found that with this method the best response is often obtained "in those cases where local treatment, as a rule, is contra-indicated." They note that arthritic pains due to a prostato-vesicular focus are relieved by this treatment in most cases, and "the original focus improved." Urinary infections may be improved before operation for prostatic enlargement and resolution aided in the postoperative period.

COMMENT

The use of conductive heat, as with the Elliott method, has its place in attempting to increase local circulation. However, conductive heat is never as reliable nor as accurate in its administration as the use of diathermy. The diathermy current passing through the prostate creates heat exactly where required and the dose can be regulated at will. Although good results have been reported with the Elliott treatment, this form of heat application has never approached the effectiveness of diathermy, but it has had greater publicity. *—N.E.T.*

Physical Aspects of Infrared Radiant Energy in Therapy

W. T. ANDERSON *(Archives of Physical Therapy, 18:699, November, 1937)* states that it has been demonstrated that the temperature of the infrared radiator affects the wave-lengths of the rays emitted. Thus if in the therapeutic use of the infrared rays a predominance of the longer wave-length is desired the red-glowing resistor type of generator should be employed; if the shorter wave-lengths ("near-visible radiations") are desired the tungsten lamp should be employed; the carbon filament lamp emits rays of somewhat longer wave-length than the tungsten lamp, but not as long as the resistor type of generator-resistor bars, iron heaters, glow radiators, etc. Experiments conducted by the author in regard to the absorption of infrared radiation by the different strata of the skin gave results in general agreement with those of other investiga-

tors. It was found that: In the upper layers of the skin—the stratum corneum and the stratum lucidum—20 per cent. of radiations from the tungsten lamp and 59 per cent. of radiations from the glowing iron resistor are absorbed and converted into heat. Sixteen per cent. of the radiation from the tungsten lamp and 6 per cent. from the iron are absorbed in the stratum granulosum, stratum mucosum and stratum germinativum and there converted into heat. Thirty per cent. of the radiant energy from the tungsten penetrates more than 1 mm. and enters the corium; and 19 per cent. is absorbed there and converted into heat; but only 0.6 per cent. of the radiation from the iron resistor reaches the corium. The radiations absorbed by the corium produce "heat effects" on the blood vessels, nerves and papillae in this layer of the skin. Eleven per cent, of the radiations from the tungsten penetrate more than 2 mm. and reach the layer of muscle and fat; no radiation from the iron resistor reaches this layer. The physician can thus select the generator for infrared rays according to the effect he desires to produce, the tungsten lamp being most suitable for obtaining the most penetrating radiations. A carbon filament lamp would give a greater heating effect than the tungsten in the stratum corneum; about the same degree of heat effect in the corium; but less radiation would reach the muscle and fat layer.

COMMENT

Clinical use of incandescent bulbs and red-glowing resistor type infrared generators has shown consistently that the admixture of visible rays is preferable. As explained in the accompanying paper, a great deal of the infrared is stopped on the surface of the skin. The application of photothermy is in an attempt to heat beneath *the surface of the skin. The effectiveness of this treatment really depends upon sub-dermal illumination for its effectiveness and therefore this paper explains on a scientific basis the clinical reasons for the preference of incandescent bulbs over infrared generators. —N.E.T.*

Public Health, Industrial Medicine and Social Hygiene

The Risk of Mortality Among Offspring of Tuberculous Parents

J. DOWNES *(American Journal of Hygiene, 26:557, November, 1937)* reports a study of the mortality of members of tuberculous families born in the period of 1868 to 1897 in a rural area (Cattaraugus County, New York), in comparison with the mortality in the sample population in the same area for the same period; and also in comparison with the mortality in tuberculous families in this same area in a more recent period (persons born 1904 to 1933). In the first period the average mortality from all causes was significantly higher in the tuberculous families than in the sample population (based on 1,062 families). The age curve of mortality among the offspring in the tuberculous families was different from the age curve of mortality for the total community; there was "a considerable excess" in mortality at ages ten to thirty-nine years in the tuberculous families, that is, for the age periods "when in rural areas tuberculosis is known to take its highest toll of life." The average tuberculosis death rate in the tuberculous families was 7.2 per 1,000 persons per year; comparison with the average mortality from tuberculosis in the sample population showed that risk of mortality from tuberculosis was *nine times* greater for offspring in the tuberculous families than for the general population. In the second, more recent, period, the mortality rate from all causes and the mortality from tuberculosis were very similar in the tuberculous families to the mortality rates in the earlier period in tuberculous families. This indicates that there has been no marked change in the hazard to the offspring when a parent has pulmonary tuberculosis. There was evidence, however, that the risk of mortality from pulmonary tuberculosis was less in the general population of the area in the modern period, for, in this period, the risk of mortality from tuberculosis in tuberculous families was found to be *fifteen times* that in the sample population. These data "further substantiate the belief that children of tuberculous parents, a group who for the most part have been in intimate familial contact with infectious tuberculosis, have a consider-

ably greater risk of death from the disease than do persons in the general population."

COMMENT

A rather interesting biometric study. It indicates the need for continuation of unmitigated activity on the part of public health workers among tuberculous families. Further study of other possible contributing factors which favor a greater hazard of death in the tuberculous groups would be advisable.
—M.L.G.

Undulant Fever and Bang's Disease in the United States

L. GERSHENFELD and D. C. A. BUTTS *(American Journal of Medical Sciences, 194:678, November, 1937)* present a survey of the incidence of undulant fever in the United States and of infection with *B. abortus* (Bang) in cattle. Undulant fever has been a reportable disease in some states of the United States since 1927; in others not until later. Inquiry to the Health Departments of all the States shows that from 1928 to 1934, 9,317 cases of undulant fever were reported in the United States. The highest incidence was reported in Iowa, Kansas, Vermont and Arizona. But comparison of high and low incidence rates of undulant fever in different states with the incidence rates of *B. abortus* infection in cattle, and the percentage of positive reactors in the cattle tested, shows no correlation between the incidence of the two. The percentage of infected herds was higher in a group of states showing a low incidence of undulant fever (below 2 per 100,000 population) than in a group of states, including the four named, showing a higher incidence of undulant fever (above 15 per 100,000 population). The percentage of positive reactors in the cattle tested was somewhat less in the states with a low incidence of undulant fever than in those with a high incidence, "yet not proportional to the existent morbidity rate of undulant fever cases." Data concerning the use of raw and pasteurized milk and other factors responsible for the spread of undulant fever are necessary for "a more intelligent consideration" of the problem. The authors conclude by urging the various State Departments of Health to "inaugurate campaigns to supply, as well as to obtain, more exacting information concerning undulant fever in this country."

COMMENT

In evaluating the results of this survey it would be well to consider the relative morbidity-reporting efficiency in the different states. Otherwise, one might be tempted to draw an incorrect conclusion with reference to correlation between the incidence of Brucellosis hominis *and* B. abortus *infection in cattle. In our own experience, epidemiologically, it is strongly significant that there is a definite correlation between the consumption of raw milk and unpasteurized dairy products and the incidence of cases of undulant fever.* *—M.L.G.*

The Employee with Heart Disease

R. B. CRAIN and M. E. MISSAL *(Journal of the American Medical Association, 110:1, Jan. 1, 1938)* describe the methods used in dealing with employees with heart disease at the Eastman Kodak Company plant in Rochester, N. Y. When evidence of cardiac abnormality is found in the examination of employees or an applicant for employment, a special examination is made of these persons with teleoroentgenograms and electrocardiograms. All cases of organic heart disease or "possible" or "potential" heart disease are examined every six months or every year—according to the severity of the case; in a few instances examinations are made oftener. Work is assigned to such employees on the basis of the findings of the medical examination, and the nature of the work cannot be changed without the approval of the medical department. Of employees with organic heart disease under supervision on the plan described, 52 per cent. are working without symptoms. The majority of those with limited capacity for work have been employed over a year. Of patients with coronary artery disease, 63 per cent., or nearly two-thirds, are working, and most of them have been employed for periods "of considerable length." Even in the group that developed coronary thrombosis, 25 out of 54 employees have worked from two to ten years in the "limited capacity" class. The authors are convinced that "proper placement and careful supervision" have

contributed to such good results with employees having limited cardiac reserve.

COMMENT

This paper is a reflection of progress in the rational understanding of a problem which occupies an important place in the field of industrial hygiene. It would be well, in the interest of greater human efficiency in industry, to establish uniform standards for the detection of heart disabilities among all industrial workers. As part of the health programs of all plants and industries the adoption of this suggestion would be instrumental not only in the conservation of life and health among the large part of our productive population, but also would be in the best interests of the employers. —*M.L.G.*

The Treatment of the Industrial Burn

J. J. WITTMER *(New York State Journal of Medicine, 37:1931, Nov. 15, 1937)* notes that burns in industry may be due to moist or dry heat, fire, chemicals, actinic radiant energy or electricity. Those burned by chemicals should be "quickly treated locally" to neutralize the chemical agent; he notes that alcohol neutralizes phenol burns, weak acids neutralize strong bases and *vice versa*. But otherwise in the presence of shock, local treatment should not be carried out until the shock is combatted. The important factors in local treatment of most types of burns are: Débridement, except in superficial burns in which application of "a paste of sodium bicarbonate made with warm water" is sufficient to cleanse the area; tannic acid treatment by spraying the burned area with a 5 per cent. tannic acid in more extensive burns, and application of tannic acid "jelly" for small burns; skin grafting in extensive burns or those involving the joints. Electric burns, however, "differ from all other types of burns." Such a burn at first may appear dry and circumscribed, but it becomes rapidly necrotic. The author has found that in electric burns the period of disability is shortened and extensive scar formation prevented by complete resection of the burned area before serum formation and necrosis begins, and immediate closure by suture or skin graft. This method, he notes, has its limitations where the line of demarcation in tendons, cartilage or bone is not clearly defined, but as a rule it gives "surprisingly" good results. In concluding, the author notes that "ointments of any kind are definitely contra-indicated in second and third degree burns," and that "first aid by the layman should be kept to a minimum."

COMMENT

A practical review of a common type of injury sustained in many lines of employment. It may be of interest to point out that the literature has been extensively enriched in recent years on the therapy of burns. This contribution summarizes effectively the status of our present knowledge on the subject. —*M.L.G.*

The Gonorrhea Problem in the United States

R. A. VONDERLEHR and L. J. USILTON *(Journal of the American Medical Association, 109:1425, Oct. 30, 1937)*, of the Public Health Service of the United States, present the conclusions from a recently completed survey of the incidence of gonorrhea in the United States. The survey has shown that at least one million persons contract gonorrhea annually in the United States. The incidence of gonorrhea is highest in cities of from 50,000 to 500,000 population and lowest in metropolitan and rural areas. The mean age of acquiring the infection was found to be twenty-nine years for white males, twenty-four years for negro males, and twenty-four years for white females. "The age of the greatest number of infections is several years earlier in each group." The authors note the effect on "the fertility of potential parents" due to infection at this age. On the basis of a study of legalized provisions for treatment of gonorrhea, it was found that 498,000 persons with gonorrhea "are constantly under observation and treatment" in the United States. "No substantial evidence" that gonorrhea is on the decline in the United States was found; it is much more prevalent than any other serious communicable disease. The experience of the Army and Navy of the United States has demonstrated that the incidence of gonorrhea can be reduced "with the methods at present available;" but in civil life, "little has been done about it."

COMMENT

Two outstanding workers in the field of preventive medicine present the results of a recent comprehensive nation-wide study of the problem of gonorrhea in the United States. It is of interest to be reminded that the incidence rate for gonorrhea is twice that of syphilis. Surgeon General Parran's campaign against syphilis has undoubtedly, at least for the time being, distracted popular attention from the magnitude of the problem of gonorrhea. The seriousness of gonorrhea is not fully appreciated even by many physicians. It is unfortunate that the tragic consequences of this disease are not fully realized even by members of the medical profession. Disregarding the lowered efficiency and economic losses suffered by those afflicted, one must consider the high percentage of cases of sterility in women and the various gynecological problems that ensue as a result of the infection. General enlightenment has been conducive to a steady decline in the prevalence of gonorrheal ophthalmia neonatorum. The high communicability of the condition of gonococcus infection, as far as it concerns girls under fifteen years of age and female infants, should be emphasized. The actual prevalence of gonorrheal vulvovaginitis throughout the United States is at present unknown. Suffice it to say, however, that in all probability it far exceeds the estimated number. These children are not only affected physically but may develop psychic disturbances which are, in many cases, lifelong. —M.L.G.

Venereal Disease in the Civilian Conservation Corps

R. FECHNER, Director of the C. C. C. *(Journal of Social Hygiene, 23:409, November, 1937)* reports that since the spring of 1933 nearly 2,000,000 young men have been enrolled in the Civilian Conservation Corps; between 250,000 and 300,000 are constantly "in its ranks." Since the organization of the Corps there have been 25,878 cases of venereal disease among the members of the Corps, 20,393 of which were gonorrhea, 3,801 syphilis, and 1,684 chancroid. This gives an incidence of less than 1½ per cent. for venereal disease. The venereal disease rate in the Corps, the author states, "is always lower than in the United States Army and generally is about half as great." The prevalence of venereal disease among the young men of the C. C. C., therefore, is considered to be "much less than it would have been had they not been members of the organization."

COMMENT

It is most gratifying to have the director of the Civilian Conservation Corps manifest a wholesome interest in the problem of venereal disease as it concerns this Service of the Federal Government. Undoubtedly, the incidence of syphilis, gonorrhea and chancroid among young men in the C.C.C., according to record, is less than that among young men in the population as a whole. For this achievement the medical as well as the administrative agencies in the group are to be commended. The health official who has more than a passing interest in activities concerned with the prevention of venereal disease is impressed with the fact that many communities in which there are reservoirs of venereal disease infection fail fully to appreciate the necessity of suppressive and control measures whereby infectious persons, male and female, can be checked in their relations. Education of the enrollees in the C.C.C. camps throughout the country and the exercise of regulations in the interest of their physical and mental well-being in the hands of the officers in the C.C.C. are not quite sufficient to reduce the hazard of infection. Closer cooperation between the health agencies of the communities wherein are located C.C.C. camps is definitely needed if really effective control is to be accomplished. With increasing activities in the interest of syphilis and gonorrhea prevention throughout the country and sufficient participation of increasing numbers of health departments, we can hope that this closeness of cooperation will be realized. —M.L.G.

+ Ophthalmology +

Vision and Central Fields After Glaucoma Operation

E. V. L. BROWN *(American Journal of Ophthalmology, 20:1250, December, 1937)* notes that there is "a general impression" that vision is seldom improved by operation in simple glaucoma, and that narrow visual fields "may be abolished down to fixation." The author, however, has "never known of such a case." He presents the results of reexamination of 9 patients at varying periods, averaging twenty-three months,

after operation for glaucoma. In one of these cases operation was done on both eyes. It was found that in the 10 eyes operated, there was an average increase of one line in vision after operation; an average regression of the scotoma of almost 6 degrees from the fixation point; and an average reduction of 22 points in the increased intra-ocular tension. In only one instance is any advance of the scotoma noted, and this was only 1 degree.

COMMENT

One would like to see the results of a much larger series of cases before accepting statistics on postoperative vision. —J.N.E.

Effect of Pressure Applied to the Eyeball

E. L. BULSON *(American Journal of Ophthalmology, 21:34, January, 1938)* reports a determination of the retinal diastolic pressure and the intraocular tension in 54 patients from thirteen to seventy-six years of age, 9 of whom had glaucoma. Not only was the average intraocular tension much higher in the glaucomatous than in normal eyes, but the retinal diastolic pressure was also higher. In normal eyes the average diastolic pressure was 31.1 mm. Hg in the right eye and 30.7 mm. Hg in the left eye, while in glaucomatous eyes it was 77.5 mm. Hg in the right eye and 61 mm. Hg in the left eye. When pressure was exerted on the eyeball either by a lead weight applied on the closed lid or with the ophthalmodynamometer, in normal eyes the intraocular tension was reduced in direct proportion to the amount of pressure exerted and the length of time it was applied. In glaucomatous eyes, the reduction of the intraocular pressure by the application of pressure depended upon "the rapidity with which filtration occurs at the angle of the anterior chamber and through other channels of outlet." The reduction in the retinal diastolic pressure followed that of the intraocular pressure. In another group of 135 patients varying in age from seventeen to eighty years, the intraocular tension was measured before and after dilatation of the pupils for refraction. The average initial intraocular tension was 19 mm. Hg; the tension was lowest for the age group seventeen to twenty years of age, and highest for the age group seventy-one to eighty years. In all these cases the intraocular tension was decreased by the application of pressure to the eyeball of 50 grams for two minutes with the ophthalmodynamometer. The action of the mydriatic had little or no effect on the relative reduction in intraocular tension by pressure. In individuals thirty years of age or older, it is important to determine the intraocular tension both before and after the instillation of a mydriatic or cycloplegic. In this way many cases of preglaucomatous conditions may be detected.

COMMENT

This study once again seems to emphasize the fact that we should employ the ophthalmodynamometer more frequently. We are doubtlessly missing useful data when it is not employed in a wide variety of cases. It is a simple instrument, and the technique of its use is practical. There is still some dispute as to normal standards of retinal blood pressure, and still some difference of opinion in interpretation. The comparative findings are, without doubt, useful. —J.N.E.

Adie's Syndrome

F. KENNEDY and his associates *(Archives of Ophthalmology, 19:68, January, 1938)* discusses the syndrome of myotonic, or pseudo-Argyll-Robertson, pupil associated with loss of deep tendon reflexes, described by Adie in 1931 and 1932. In the complete form of this syndrome one or both pupils fail to react normally to light and have a tonic convergent reaction and one or more deep tendon reflexes are absent. In the incomplete form of this syndrome there are no abnormalities of the deep tendon reflexes, but the tonic pupillary reactions, or some atypical phases of these reactions, are present. The tonic or myotonic pupil of this syndrome differs from the true Argyll-Robertson pupil in that the condition is more often unilateral than bilateral, and the affected pupil is usually larger; the pupil also reacts normally to mydriatics, while the Argyll-Robertson pupil reacts poorly. While Adie describes this syndrome as a "benign disorder *sui generis*," the authors found that it is often associated with emotional disturbances and vaso-

motor lability, but not with any organic disease of the nervous system. The importance of this syndrome lies in the fact that it not infrequently leads to an erroneous diagnosis of syphilis of the central nervous system, especially tabes dorsalis. Thus in some instances "it has played a major role in disrupting family life and leading to a vast amount of unnecessary anxiety and misery." A knowledge of this syndrome is therefore essential to the physician.

COMMENT

This paper seems to emphasize once again not only that the Argyll-Robertson pupil is not specific, but also that each of us should establish a practical routine method of studying the pupillary reflexes. —*J.N.E.*

An Unclassified Type of Optic Neuritis

G. E. CLAY and J. M. BAIRD *(Archives of Ophthalmology, 18:777, November, 1937)* have observed 7 cases of optic neuritis of an unclassified type in Atlanta, Georgia. Since October, 1936, they note, 5 additional cases of optic neuritis of a similar type have been observed by others in Atlanta. In these cases the optic discs showed swelling of 1 to 6 D; there was sudden loss of vision with central scotoma, and in 2 cases no perception of light. There were no general symptoms during the course of the neuritis, but in most cases there were prodromal symptoms of malaise, slight cold and sore throat. Atrophy of the nerve occurred early and was of the postneuritic type. The degree of atrophy varied with the duration of the optic neuritis. In those cases in which vision did not improve in six weeks the prognosis was "grave." In all cases the Wassermann reaction was negative in the blood and in the spinal fluid in the 5 cases in which this examination was made. General physical examination, the neurological examination, examination of the ear, nose, throat and sinuses were all negative. The findings in the fundus in the 7 cases resembles that found in demyelinating diseases with associated optic neuritis; the onset, the swelling of the nerve head, the central scotoma and the resulting atrophy all "gave a picture parallel to that of neuromyelitis optica," but the spinal cord was not involved. The sudden onset in these cases and the rapid loss of vision indicate that the condition was of infectious origin; the number of cases occurring closely together suggests that the disease has "epidemic characteristics." One of the patients showed a star figure in the macula, as described by Fuchs in his "idiopathic retinitis." The authors suggest a new classification for these cases —acute infectious optic neuritis, due to "an unknown virus with predilection for the optic nerve."

COMMENT

The report of a new entity which, by ophthalmoscopic study, shows the optic nervehead to be "blurry edged", elevated, and of abnormal color, recalls that one must keep many conditions in mind which give rise to this nervehead appearance. The following may be considered:

1—Diffuse inflammation of the nervehead —true papillitis.
2—Choked disk—mechanical obstruction of circulation.
3—Tumor of the nervehead.
4—Abscess of the nervehead.
5—Trauma of the nervehead (including foreign bodies).
6—Cysts of the nervehead.
7—Mesodermal tissue on the nervehead.
8—Ectodermal tissue on the nervehead.
9—Other congenital anomalies of the nervehead.
10—Parasites of the nervehead.
11—Chemical injuries of the nervehead (specific poisons—exogenous and endogenous).
12—Radiation injuries of the nervehead.
13—Adjacent choroid or retinal lesions (juxtapapillaris).
14—Uveal tract disease (postinflammatory debris).
15—Vitreous opacities—obscuring definition.
16—Pseudoneuritis.
17—Opacities of the lens.
18—Opacities of the cornea.
19—Refractive errors.
20—Metabolic diseases.
21—Acute multiple sclerosis and other specific neurogenic diseases.
22—Many rare diseases. —*J.N.E.*

Importance of Diet in Tobacco-Alcohol Amblyopia

F. D. CARROLL *(Archives of Ophthalmology, 18:948, December, 1937)* notes that recent studies have indicated that vitamin defficiency, especially vita-

min B deficiency, is an important factor in the causation of alcoholic polyneuritis, and that this deficiency rather than the toxic effect of alcohol is the cause of damage to the nerve. A study of 8 cases of tobacco-amblyopia is reported, in which while the patients were hospitalized, no reduction in the use of tobacco or the intake of alcohol was made, but the patients were given a well balanced diet supplemented by brewer's yeast, brewer's yeast extract and wheat germ to give a high vitamin B intake, and cod-liver oil. Intramuscular injections of liver extract were given several times weekly. When these patients were discharged from the hospital, they continued to take brewer's yeast. These patients have been followed-up for at least a year; only one of the 8 patients failed to improve. This patient had atrophy of the papillomacular bundle of the optic nerve and vision remained stationary. All the other patients showed good results; recovery was as rapid as in patients treated previously who abstained from the use of tobacco and alcohol. The author does not recommend continuing the use of tobacco and alcohol in the ordinary case of toxic amblyopia. He is convinced, however, that the addition of brewer's yeast or yeast extract to the diet to ensure a high vitamin B intake is of value in the treatment of tobacco-alcohol amblyopia.

COMMENT

Vasodilators and vitamin B therapy seem to have advanced not only our management of tobacco-alcohol cases, but also to have aided our understanding of the pathogenesis. It is wiser, however, not to think that the question of treatment is settled; more confirmatory reports are needed, and one must not forget that a few years ago salvarsan therapy aided certain of these cases, even though luetic infection could be ruled out.

—J.N.E.

Microsurgery in Chronic Simple Glaucoma

O. BARKAN *(California and Western Medicine, 40:10, January, 1938)* has previously reported an operation for chronic simple glaucoma, which consists in opening Schlemm's canal "under direct magnified vision." In the cases in which the trabeculum was incised for a sufficient extent, the intraocular pressure returned to normal; the author's observations indicate that the results thus obtained "show promise" of being permanent. He has recently improved the technique of this operation so as to increase the magnification from 4 times to 20 times. For this improved procedure the surgeon wears a helmet to which the binocular corneal microscope is attached. He steadies the microscope with his left hand, and by means of a finger of this hand maintains contact with the patient's head. Two assistants are necessary; one fixates the bulbus at the temporal limbus with a small Elschnig forceps in his right hand, and steadies the surgical contact glass with a double pronged probe in his left hand. The other assistant guides the beam of the hand lamp. The surgeon operates with his right hand; when the blade of the knife reaches the highly magnified angle, its point is "inserted exactly into that portion of the trabeculum which covers Schlemm's canal;" the incision is continued for several millimeters along this line. Postoperative biomicroscopic examination in cases operated by this technique has shown a single straight dehiscent slit opening Schlemm's canal. As far as the author finds such a high degree of magnification has not previously been employed in intra-ocular surgery.

COMMENT

There is no doubt that the theory of this procedure must be seriously considered. One must wait for further reports to judge not only results but practical usefulness. Moreover, it must be understood that relief of the intraocular pressure by any surgical procedure does not cure that disease complex which we call "glaucoma."

—J.N.E.

The Hectic Life

Take your aspirin in the twenties and thirties and get your coronary disease in the fifties and sixties.

Medical Book News

* All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, New York.

Edited by **Alfred E. Shipley, M.D., Dr. P.H.**

A New Edition of Joslin's Manual

A DIABETIC MANUAL FOR THE MUTUAL USE OF DOCTOR AND PATIENT. By Elliott P. Joslin, M.D. Sixth edition. Philadelphia, Lea & Febiger, [c. 1937]. 219 pages, illustrated. 8vo. Cloth, $2.00.

The sixth edition of the Joslin Diabetic Manual carries the same general outline, and has the same chapter headings as the fifth edition. The chapter "Care of the Teeth" revised by H. R. Kent, D. M.D. is to the point and well done.

The Joslin Diet Prescriptions have carbohydrate from 100 to 200 grams and fat 61 to 123 grams with protein varying between 47 and 100 grams.

The chapter on treatment with insulin has been rewritten, and includes a good discussion on the differences between the regular and protamine insulin. It suggests the methods of use, and advises carbohydrate feedings between meals and at bed time.

The tone of this manual is encouragement to the patient. There is maintained an optimism that should do much to help take diabetes off the layman's list of curses on the human race.

This manual continues to be an excellent reference work for the general practitioner as a complete, simply written hand book on diabetes mellitus.

PAUL C. ESCHWEILER.

Hernial Therapy

INJECTION TREATMENT OF HERNIA. By Carl O. Rice, M.D. Philadelphia, F. A. Davis Company, [c. 1937]. 266 pages, illustrated. 8vo. Cloth, $4.50.

In 1832 Dr. Jaynes in St. Louis used essential oils as an injection fluid for the cure of hernia. During this same general period Pancoast and Heaton reported several cures by this method, but for some reason this kind of treatment was laid aside. It was not until approximately fifty years later that it again came into use by reputable physicians.

Dr. Carl O. Rice at the Minneapolis General Hospital presents this monograph which is inclusive and comprehensive. The author does not make the reader feel that this is the only treatment for hernia. He presents the subject in a fair, impartial manner. He recognizes that there are many types of hernia which should not be treated by injection. He presents this monograph hoping it will teach the surgeon how to use the injection procedure in selected cases.

The reviewer feels that this work fulfills a real need. Whether one believes in surgery or injection is not the question. Dr. Rice impartially presents his results. The book is well recommended.

MERRILL N. FOOTE.

A Student's Handbook on Physiology

AIDS TO PHYSIOLOGY. By Henry Dryerre, Ph.D. Second edition. Baltimore, William Wood & Company, [c. 1937]. 295 pages, illustrated. 16mo. Cloth, $1.25.

This is a small compact book essentially concerned with a summary of Physiology. It might be of possible advantage to those who have forgotten their physiology and wish to become acquainted with the nomenclature of the modern science.

G. B. RAY.

Cecil's New Edition

A TEXTBOOK OF MEDICINE. By American Authors. Edited by Russell L. Cecil, M.D. Fourth edition. Philadelphia, W. B. Saunders Company, [c. 1937]. 1416 pages. 8vo. Cloth, $9.00.

This book which has attained eminence in its field deserves the highest praise. All subjects in medicine are covered in a satisfactory manner by authorities in the respective fields. The whole volume has been brought up to date. Many previous articles have been rewritten by

new authors, and some additional subjects have been added. All maintain the standard of excellence which was formerly present. Unquestionably keeping the text continuously abreast of modern developments in medicine will retain the outstanding position of this work as a textbook for students and practitioners.

J. HAMILTON CRAWFORD.

A Descriptive Novel of Irish Hospital Practice

EVE'S DOCTOR. By Signe Toksvig. New York, Harcourt, Brace and Company. [c. 1937]. 311 pages. 8vo. Cloth, $2.50.

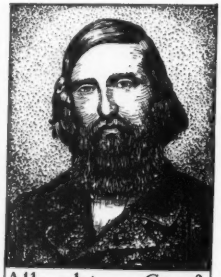
This is a most interesting story, portraying the career of a Dr. Michael Murrough, Irish gynecologist and obstetrician, who is a highly skilled, conscientious and ideally trained physician. In his fight for more progressive science in the administration of medical care, he is defeated through the arrogance and the reactionary attitude of the governing body of the hospital with which he is connected.

Interwoven with this theme, is the story of the love of a young woman, one of the surgeon's patients. Her relation to the surgeon and his wife is skillfully depicted.

The novel represents a scathing denunciation of certain practices perpetrated by the governing boards of some institutions to the detriment of the patients.

Hospital life and work are pictured with remarkable accuracy, and the story holds attention from beginning to end.

WILLIAM RACHLIN.



Albrecht von Graefe
1828-1870

Classical Quotations

● When normal individuals elevate or lower their glance, the upper eyelid makes a corresponding movement. In patients suffering from Basedow's disease, this is entirely abolished or reduced to the minimum.

Albrecht von Graefe.
Deutsche Klinik
(1864), xvi, 158.

Aviation Medicine

FLYING VISTAS. The Human Being, as Seen Through the Eyes of the Flight Surgeon. By Isaac H. Jones, M.D. Philadelphia, J. B. Lippincott Company, [c. 1937]. 255 pages, illustrated. 12mo. Cloth, $2.00.

So far as is known this is the first book on the medical aspects of aviation written for the pilot. There is a definite field for such a book. Pilots are required to take frequent physical examinations and undergo tests, the meaning of which and their relation to aviation, are obscure to them. Although much of the resentment that early pilots felt toward the medical rigors they endured has long since vanished, nevertheless, the beginner often wonders "what it is all about". This book explains it to him in what—so far as medical terms are concerned— are words of one syllable. It should help for better understanding between the pilot and the flight surgeon.

The section on blind flying should be especially illuminating to the flyer, as it is difficult for him to realize that his own sensations can be and are wrong. The explanation in this book is so clear and simple that there can be no doubt left in any layman's mind. It is a pity that such information was not available to the pilot long ago. It might have saved many lives. If every student flyer would read this book it would help him materially to understand the importance of keeping "fit to fly".

From the flight surgeon's standpoint the book is of value from two angles. It gives a historical background of the hectic days during the war and the birth

of aviation medicine. It also helps him in explaining to the pilot the "why" and "wherefore". Although the doctor may know and should know the reasons for all the tests when asked to explain them he often is at a loss for the simple expressions that make his answers intelligible to a layman.

The book has a distinct place for pilot and flight surgeon, and in addition it should arouse the interest of those who have a curiosity about aviation, whether or not they intend to fly.

L. H. BAUER.

Physiologic Methods in Eye Work

EYESTRAIN AND CONVERGENCE. By N. A. Stutterheim, M.D. London, H. K. Lewis & Co., Ltd., [c. 1937]. 89 pages, illustrated. 4to. Cloth, 7/6.

The only justification for this book is that an attempt has been made to explain and alleviate eyestrain, an ophthalmological therapeutic problem.

Eyestrain is described as a symptom-complex existing in a great many patients seen by the ophthalmologist, and in whom no histopathology or error of refraction is found to explain the condition. The author ascribes these vague symptoms to a convergence insufficiency. Convergence is defined and classified as a relatively recent developed nervous mechanism in the phyletic scale. In these cases of insufficient convergence for some reason not explained, the pathways concerned have not been opened. The amount of convergence necessary for aligning the visual axes for near work and the surplus convergence required for consistent comfort are given.

The method of diagnosis and treatment is simple, although the author goes into great detail explaining the procedure. He reports phenomenal results, cases in which amblyopia was cured; cases in which unexpanded visual field constrictions were cured; and cases of ophthalmic migraine which were benefited by kinetic treatment, which is no more than convergence exercises with prisms.

The remarkable results reported for the simple therapeutic principle applied is an excuse to spend the short time it takes to study the complete volume. However, basically it does not seem that the author has opened a new field, for the well trained ophthalmologist, in doing a complete refraction, checks the phase of convergence that the author has discussed, and if insufficient, institutes therapy, which in the end gives the same result that the author claims, but about which has not been built such a spectacular picture.

WILLIAM F. BRYCE.

Another Popular Book on Marriage

EMOTIONAL ADJUSTMENT IN MARRIAGE. By Le Mon Clark, M.D. St. Louis, The C. V. Mosby Company, [c. 1937]. 261 pages. 8vo. Cloth, $3.00.

This is another book for the eager public, with nothing startling, nothing objectionable and nothing new. How many of them there are! They serve a useful purpose we suppose. A large part of this book is devoted to description and evaluation of the different methods of birth control. Use of the Grafenberg intrauterine ring, the author says "should be limited to those who can afford guidance at the hands of expert gynecologists," but we know that an expert gynecologist would never think of using one; for that is clearly the worst method of all methods of prevention. The author is an assistant in obstetrics and gynecology at the University of Illinois School of Medicine.

CHARLES A. GORDON.

Dietetics Mathematically Defined

A LABORATORY HANDBOOK FOR DIETETICS. By Mary S. Rose, Ph.D. Fourth edition. New York, The Macmillan Company, [c. 1937]. 322 pages. 8vo. Cloth, $3.00.

This is a small book consisting mainly of reference charts and tables. The thirty odd pages of introductory material concern themselves with a simple explanation of the dietary requirements of man. There are also a few algebraic equations of how to determine the amount of nutrient in a given food.

The author is instituting a new measuring unit to be known as the *share*. One calorie share being equivalent to a 100 calories or one protein share being equivalent to 2.5 grams or 1 calcium share being equivalent to 0.023 grams. In each instance a share represents 1/30th of the daily human requirements of the respective item.

It seems to the reviewer that this may add more confusion to the subject. How-

ever, we consider the author of sufficient experience to let time decide the value of shares.

This book is really a mathematical compendium of the quantities and percentages of various food elements, but not a laboratory book for chemical or physical tests.

M. ANT.

Three New Works on Psychoanalysis

MENTAL THERAPY. Studies in Fifty Cases. By Louis S. London, M.D. Volumes I and II. New York, Covici Friede Pub., [c. 1937]. 774 pages. 8vo. Cloth, $12.50.

The author of these two volumes is adequately experienced to bring to seasoned expression his methods of psychotherapy as represented in the more or less detailed studies of fifty cases seen in his private practice.

Following a number of years on the staff of New York State Hospitals as well as experience in the United States Public Health Service, Dr. London entered private practice of psychiatry in New York City. His practice was not merely that of understanding and helping his patients to get well, but also one of applied critical research into the various problems brought to the front. Although the author is decidedly biased in favor of the psychoanalytic school of psychotherapy, nevertheless, he aptly weaves in conceptions and therapeutic approaches of outstanding psychiatrists other than Freud, such as Stekel, Adler, and Jung.

The book is divided into six parts: Metapsychology, Psychogenesis and Psychotherapy of the Neuroses, the Paraphyliac Neuroses (Sex perversions), Psychogenesis and Psychotherapy of the Border-line Neuroses, Psychogenesis and Psychotherapy of the Psychoses, (Schizophrenia) and Psychogenesis and Psychotherapy of the Psychoses (cylic).

The attractive style of writing these case histories makes for interest, since Dr. London does not rigidly adhere to any definite form. Certain of the cases are described in detail in order to illustrate modified psychoanalytic technique; but for the most part, the work is so expressed as to show the interrelationships and significance of the various facts and factors entering into dynamisms or mechanisms making for illnesses of various types. There are a number of diagrams which make for clarification of conceptual hypotheses. Many of these are uniquely ingenious. The book is rounded out with an adequate glossary and index.

This book will find an important place in the reference library of the practicing psychiatrist, neurologist, and general practitioner of medicine. The clinical psychologist and worker in abnormal psychology will also find a mine of information in these two experience-born volumes.

FREDERICK L. PATRY.

CONCEPTS AND PROBLEMS OF PSYCHOTHERAPY. By Leland E. Hinsie, M.D. New York, Columbia University Press, [c. 1937]. 199 pages. 8vo. Cloth, $2.75.

In this book the author takes up the methods of Freud, Meyer, Adler and Jung, and points out the principles upon which each method is based, and what it comprises. Much information is packed into a comparatively small space. In discussing psychoanalytic methods he takes up the development of emotions, the structure and functions of the psyche. The essence of psychoanalytic therapy is the attempt to remove the unconscious factors of irritation and inhibition so that the patient can act in harmony with the environment.

Psychobiologic methods deal with the conscious field, mostly with environment, and are based upon a full knowledge of the individual and his reactions. Everything is done to externalize interests and to reintegrate the personality.

Jung's treatment consists of analysis and synthesis. He believes in a personal and collective unconscious, and the psychiatric problem may be embraced by either or both. The Adleriam treatment depends upon the theory of organic defect, or inferiority in conflict with an effort at achievement. Compensation may be normal or abnormal. In the latter event, mental symptoms become manifest. To him treatment is the study of the life plan of the patient and the goal idea in an effort to synthesize future activities.

A chapter on statistical evaluation of psychotherapeutic methods by Carney Landis, Ph.D., leads to the conclusion that "it is apparent that different varie-

ties of intensive work have had little difference in their ultimate effectiveness."

The book should be a help to any student of psychiatry, whether interested in therapy primarily or in research, and should serve to fix the relationship of certain psychotherapeutic methods to the different conceptions of the development, structure and function of the psyche.

ARTHUR E. SOPER.

✚

COMMON NEUROSES OF CHILDREN AND ADULTS. By O. Spurgeon English, M.D. and Gerald H. J. Pearson, M.D. New York, W. W. Norton & Company, Inc., [c. 1937]. 320 pages. 8vo. Cloth, $3.50.

This book is a presentation of common neuroses occurring in children and adults. It is divided into three portions. In the first part, the authors discuss the structure and development of personality. The entire discussion is presented from the psychoanalytical point of view. There is a review of the main tenets of psychoanalysis.

In the second part, the common neuroses of childhood are presented. These include anxiety states in children, disorders of the gastrointestinal and genitourinary tracts, sexual perversions of children, and a discussion of the general treatment of psychogenic disorders in childhood.

In the third portion of the book, the common neuroses of adults are presented. There is a review of the technique of psychoanalysis as it is applied to the individual patient.

For those of the profession who are interested in obtaining an approach to these problems through the viewpoint of psychoanalysis, this book should be of extreme value. It also presents references to psychoanalytical literature which may be used for further study in any particular field. However, it should be pointed out that many of the conditions discussed, such as thumb sucking and habit spasms in childhood, are subject to other interpretations than those of the authors.

STANLEY S. LAMM.

Another Health Book for Lay Readers

40,000,000 GUINEA PIG CHILDREN. By Rachel L. Palmer and Isidore M. Alpher, M.D. New York, The Vanguard Press, [c. 1937]. 249 pages. 12mo. Cloth, $2.00.

A useful addition of sound and practical ideas to numerous other works on child nutrition, this little book will be of interest to laymen as well as to medical men. It is especially recommended to those who have been brought up in this era of vitamins. While these authors show due regard for vitamins as an accessory food for the growing child, at the same time they point out the futility and possible danger of overdoing a good thing. At a time when the "air" is saturated with vitamins for every imaginable condition, both in health and disease, it is gratifying to find a book which calls people to their senses by warning them not to abuse a worthy and important nutritional factor.

Parts of this little book, e.g. chapter VI "Don't let Them Be Poisoned", resembles in style, at least, a book published some time ago, under the title 100,000,000 Guinea Pigs.

Altogether this is a useful and timely publication. The reviewer recommends it for any collection of books on modern but sane nutrition.

HARRY APFEL.

A Translation of Kirschner's Head Surgery

OPERATIVE SURGERY. The Ear, Air Passages and Neck. By Dr. Martin Kirschner. Volume III. Philadelphia, J. B. Lippincott Company, [c. 1937]. 528 pages, illustrated. 4to. Cloth, $12.00.

This volume on Surgery of the Head and Neck, not including the brain, has an appeal for the advanced student in this field. There are several procedures which are given a fair amount of space, and which have long been superseded by American specialists. The performance of a preliminary tracheotomy in order to pass a bronchoscope, as a routine procedure, has not been used in this country for more than thirty years. The operation upon the nasal septum by means of a sublabial incision is a curiosity rather than an actuality to the American Laryngologist.

There is evidence of a lack of emphasis and apparent disregard of fineness of technique and consideration for the patient in many parts of the book.

On page 156 it is suggested that anesthesia be omitted in older children for the removal of adenoids; that the finger be introduced into the laryngopharynx to wipe it out and free the passages. In the same section the author makes the following statement: "Hemorrhage is fairly severe, but soon subsides when the patient is put to rest, and breathes freely through the nose." To operate upon a patient and send him to bed without even attempting to stop the bleeding seems to be taking an unnecessary risk.

Most of the illustrations are very good and instructive. The chapter on the labyrinth is particularly attractive. The authors, however, might have chosen an illustration of a more modern tonsil guillotine than that which was devised by Physick in 1828.

There is much to be learned from this work, but it is not a book for the beginner because of procedures and statements which are open to question, and also because of the omission of procedures which have proven their value. In this respect, bronchoscopy as practiced here is not mentioned. The comments of the translators add value to the text.

One cannot be enthusiastic about this book because its text disregards many of the advances which have been made by American surgeons.

MERVIN C. MYERSON.

Biochemistry of the Autonomic Nervous System

AUTONOMIC NEURO-EFFECTOR SYSTEMS. By Walter B. Cannon and Arturo Rosenblueth. New York, The Macmillan Company, [c. 1937]. 229 pages, illustrated. 8vo. Cloth, $4.00.

This book is a collection of papers dealing with the recently acquired evidence about the chemical step which intervenes between the nerve impulse and the effector in the functioning of the autonomic nervous system. The various experimental data regarding the function of both the sympathetic and the parasympathetic nervous systems are lucidly described.

The book is of value in that it deals with basic principles regarding the autonomic nervous system. It is a highly scientific book and one that should prove of interest to many physicians. There are appended 344 references to important works on this phase of the autonomic nervous system.

It is a volume that should find its way to the library of every scientific physician.

IRVING J. SANDS.

A Consideration of Allergic Symptoms

ALLERGY. Its Practical Application. By J. A. Rudolph, M.D. Philadelphia, Dorrance and Company. [c. 1937]. 224 pages. 8vo. Cloth, $3.00.

In this small volume the author presents, almost in outline form, a brief survey of the field of allergy. The material is prepared primarily for the use of the general practitioner and of the medical student. Practical aspects of the subject are stressed almost to the total exclusion of theoretical considerations. Case histories are included to illustrate points brought out in the text. A small bibliography is appended. The book adds little to the knowledge of the subject of allergy. It is in no respect superior to any of the other small books on allergy, written for the same purpose.

MATTHEW WALZER.

Success Story

PERSONALITY AND OTHER THINGS. (A Semi-Autobiography). By Harold Hays, M.D. New York, The American Physician, Inc., [c. 1937]. 163 pages. 8vo. Cloth.

Doctor Hays, well-known as the inventor of the pharyngoscope and as the brother of that valiant champion of civil liberties, Arthur Garfield Hays, Esq., of the New York bar, frankly, publicly, unashamedly and without inhibitions worships the great god Success, and preaches his four-square gospel with all the fervor of a composite Moody, Sankey and Billy Sunday. He dramatizes his own success and tells the frustrated hinds of the profession how to prepare themselves for the rôle of greatness, as exemplified by such men as Doctor Royal S. Copeland! (page 27).

The development of personality is the principal key. Doctor Hays goes detailedly into the evolution of his own personality with this introduction:

> In thinking over all the circumstances which may have helped me toward a personality which has satisfied me that I have satisfactorily fitted into my little niche in the world, I am reminded of many things which helped me to be what I am.

Here is a manual perfectly adapted to the needs of those who yearn to become

strongly extroverted individuals, which to them usually conditions worthy achievement. It crystallizes all the ideology of inferior men consumed with envy toward their fellows with "innards" —strong, one hundred per cent he-men, but constructively points to the cure. One thinks, God save us, of Dale Carnegie.

As Henry C. Link, author of the well-known book *My Return to Religion*, says in the Introduction: "Persons who have failed to develop an adequate range of skills for the expression of their organic energies are liable to complexes and neuroses of all kinds." Doctor Hays' book points the way to the would-be extrovert—to the means whereby even formidable inferiority complexes may perhaps be compensated for and so liquidated.

If it be true that there are any considerable number of professional men in great need of such a prescription as that of Doctor Hays, then there is much point to the efforts of uplifters to persuade the State to bureaucratize and so debase them further. Men without personality are in danger of regimentation, and so are a menace to all; yet one could almost say that they deserve it. Doctor Hays may be wholly right in his seeming assumption of a grossly inferior left wing. But who will win, Doctor Hays or the uplifters?

Those who need such a guide will be charmed by it. Over-intellectualized introverts wedded to a totally different and occasionally more precious way of life will shudder at its curious (to them) amalgam of *naïveté* and self-consciousness and beat madly precipitate retreats into their ivory towers.

ARTHUR C. JACOBSON.

Technical Exercises Relating to Virus Diseases

LABORATORY OUTLINE IN FILTERABLE VIRUSES. By Roscoe R. Hyde with the assistance of Raymond E. Gardner. New York, The Macmillan Company, [c. 1937]. 85 pages, illustrated. 12mo. Cloth, $1.50.

This brief manual attests to the rapid progress that is being made in the study of filterable viruses. It is designed as an outline to courses given in the School of Hygiene and Public Health, Johns Hopkins University, to graduate students. It outlines various laboratory exercises designed to familiarize students with the study of the virus problem. It seems to be a comprehensive outline as to the method of approach. One regrets, however, that—probably because of the small compass of the volume—little or no information is supplied as to present knowledge of the subject. For example, the second part of the book deals with histopathology of certain virus diseases, describing the method of study without any information as to changes to be noted.

The book will have an application only to students especially interested in the laboratory side of virus diseases. It is replete with references as well as with technical information.

THEO. J. CURPHEY.

Examining the Urologic Patient

DISPENSARY UROLOGY. By Nelse F. Ockerblad, M.D. and Hjalmar E. Carlson, M.D. Minneapolis, Burgess Publishing Company, [c. 1937]. 84 pages, illustrated. 4to. Cloth, $2.00.

This little book is presented in an interesting and original style in that procedures in examination, diagnosis and treatment are based upon the presenting symptoms of the patient. For this reason it is very modern and in line with the newer trend of teaching of the undergraduate and postgraduate student. Originality of thought should be stimulated by this work. For example, thirty-seven causes of pyuria are listed followed by the method of differential diagnosis and management. Hematuria, areas of swelling, dysuria, etc., are treated in the same manner. The reviewer believes that the author has made an interesting and valuable contribution providing a guide of perhaps greater service to the student and practitioner than may be obtained from the average text book.

AUGUSTUS HARRIS.

A New Volume on Silicosis Literature

THE PNEUMONOKONIOSES (SILICOSIS). Literature and Laws, Book III. By George G. Davis, M.D., Ella M. Salmonsen and Joseph L. Earlywine. Chicago, Chicago Medical Press, [c. 1937]. 1033 pages. 8vo. Cloth, $8.50.

This is the third volume in this series on the pneumonokonioses by these authors.

The book contains international abstracts, extracts and reviews of the pneumonokonioses and their associated diseases and subjects. This third volume

also includes a discussion of the occupational disease law in some of the various states in the Union, with a discussion of the medico-legal questions and decisions rendered by the courts. In the main, however, it contains abstracts of all articles on the subject of various dust diseases of the lungs and brings the entire subject up to date. It has become a valuable reference work in its field.

IRVING GRAY.

BOOKS RECEIVED

Books received for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

DIGESTIVE TRACT PAIN. Diagnosis and Treatment. Experimental Observations. By Chester M. Jones, M.D. New York, The Macmillan Company, [c. 1938]. 152 pages, illustrated. 8vo. Cloth, $2.50.

ESSENTIALS OF PRESCRIPTION WRITING. By Cary Eggleston, M.D. Sixth edition, revised. Philadelphia, W. B. Saunders Company, [c. 1938]. 155 pages. 16mo. Cloth, $1.50.

SURGICAL DISEASES OF THE MOUTH AND JAWS. By Earl C. Padgett, M.D. Philadelphia, W. B. Saunders Company, [c. 1938]. 807 pages, illustrated. 8vo. Cloth, $10.00.

FRACTURES AND DISLOCATIONS FOR PRACTITIONERS. By Edwin O. Geckeler, M.D. Baltimore, William Wood & Company, [c. 1937]. 252 pages, illustrated. 8vo. Cloth, $4.00.

PULMONARY TUBERCULOSIS IN PRACTICE. A Modern Conception. By R. C. Wingfield, M.B. Baltimore, William Wood & Company, [c. 1937]. 122 pages, illustrated. 8vo. Cloth, $2.50.

LECTURES ON THE EPIDEMIOLOGY AND CONTROL OF SYPHILIS, TUBERCULOSIS, AND WHOOPING COUGH, AND OTHER ASPECTS OF INFECTIOUS DISEASE. By Thorvald Madsen, M.D. (The Abraham Flexner Lectures Series Number Five). Baltimore, The Williams & Wilkins Company, [c. 1937]. 216 pages, illustrated. 8vo. Cloth, $3.00.

THE PHYSICIAN'S BUSINESS. Practical and Economic Aspects of Medicine. By George D. Wolf, M.D. Philadelphia, J. B. Lippincott Company, [c. 1938]. 384 pages, illustrated. 8vo. Cloth, $5.00.

DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY. By Hamilton Bailey, F.R.C.S. Sixth edition. Baltimore, William Wood and Company, [c. 1937]. 284 pages, illustrated. 8vo. Cloth, $6.50.

TEXTBOOK OF EXPERIMENTAL SURGERY. By J. Markowitz, M.B. Baltimore, William Wood & Company, [c. 1937]. 527 pages, illustrated. 8vo. Cloth, $7.00.

DISEASES OF THE SKIN. A Manual for Students and Practitioners. By the late Robert W. MacKenna, M.D. Fourth edition revised and enlarged by Robert M. B. MacKenna, M.D. Baltimore, William Wood and Company, [c. 1937]. 557 pages, illustrated. 4to. Cloth, $7.00.

LOVE AND HAPPINESS. Intimate Problems of the Modern Woman. By I. M. Hotep, M.D. With a prefatory note by Dr. Logan Clendening. New York, Alfred A. Knopf, [c. 1938]. 235 pages. 12mo. Cloth, $2.00.

THE MAYO CLINIC. By Lucy Wilder. New York, Harcourt, Brace and Company, [c. 1938]. 95 pages, illustrated. 4to. Cloth, $1.50.

MACLEOD'S PHYSIOLOGY IN MODERN MEDICINE. Eighth edition, edited by Philip Bard. St. Louis, The C. V. Mosby Company, [c. 1938]. 1051 pages, illustrated. 4to. Cloth, $8.50.

APPROVED LABORATORY TECHNIC. Clinical Pathological, Bacteriological, Mycological, Parasitological, Serological, Biochemical and Histological. By John A. Kolmer, M.D. and Fred Boerner, V.M.D. Second edition. New York, D. Appleton-Century Company, [c. 1938]. 893 pages, illustrated. 4to. Cloth, $8.00.

You may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the MEDICAL TIMES, 95 Nassau Street, New York, N. Y.